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ORIGINAL ARTICLES.

WHAT ARE THE INDICATIONS FOR REMOVAL OF THE UTERINE APPENDAGES?*

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The student who has an opportunity of listening to the opinion of half a dozen clinical teachers on the subject of indications for or against removal of uterine appendages in a given case, will often be surprised at their variance.

The patient who has suffered some time from dysmenorrhœa or from other pelvic pains, whether she seeks the advice of a number of the best general practitioners recommended to her at her home, whether she goes from one gynecological clinic to another, or whether she consults as many of the "best specialists" as her purse can afford, is often equally surprised at the variance of the verdicts. She will sometimes be undecided for months, and even for years, as to what course to pursue.

One has told her "try to allay the inflammation by local treatment and we can operate as a last resort." Another says: "Removal of the appendage is the only road to health; delay is hazardous; the risk of an operation nowadays is reduced to a minimum." A third doctor says, "you will probably never regain health without the operation, but on the other hand you must take your own chances in choosing a measure which endangers life, and even then we cannot guarantee success." If this patient follows the advice of the first, who said

"Wait," she may be rewarded by perfect health, sometimes on account of judicious treatment and sometimes without any treatment whatever; on the other hand, possibly she and her friends may regret the delay if she suddenly succumbs to an acute septic pelvic peritonitis.

How about the patient who submits to the operation? She usually survives, frequently the ultimate result is all that has been promised; but almost every physician can recall some particular case or cases in which she is even worse than before.

I have in mind now one of these unfortunate ones who probably had consulted every gynecologist in this city, and who has tried to be admitted to the gynecological wards of several of our hospitals since her first operation. The ovaries had been removed for pelvic pain. She made a good recovery from the operation, but when she was able to be about the old pain returned with increased severity. For the vesical irritation of which she subsequently complained, the urethra had been dilated several times. One of the physicians treated her with electricity, but without success. Finally, removal of the uterus was suggested as a last resort. Whether she underwent this operation I do not know; but my impression of the case is that no surgical operation could bring relief to her, on the contrary any measure which would lower vitality would aggravate the trouble, for she was suffer-

*Read before the Illinois State Medical Association, 1893.

ing with a neurosis of central origin.

Those who have had a very large experience, and who have watched their patients for some years after the operation, will be able to select with considerable certainty the cases which may, or which may not be benefitted, but it is to be regretted that those who have their experience yet to gain, will find much in our literature that is contradictory and even misleading. I will except conditions in which the pathological changes are very conspicuous. On these there is no material difference of opinion; for instance, the reader will hardly be in doubt as to the propriety of removing ovarian tumors. The same applies to tubes which are considerably distended by fluid contents, or whose size is markedly increased by a neoplasm. Removal of the ovaries with the view of arresting the growth of some uterine fibroids is pretty generally sanctioned. The result in well selected cases is often most gratifying; the hemorrhage ceases and the tumor gradually shrinks.

So much for indications which are generally admitted. We come next to those which are the object of so much contention; indications which, when rightly apprehended, have been the means of inestimable benefit, but which, when misapprehended, have brought upon the sanguine operator the criticism of his brethren and the disappointment and sometimes the curse of his patient.

The indications just referred to are as follows: Inflammatory conditions of the ovaries or tubes, displaced and enlarged appendages, dysmenorrhœa, menorrhagia, epilepsy, hystero-epilepsy and various other neuroses.

My own observation has led me to conclude that the skepticism concerning operative gynecology in general and the utility of removing uterine appendages in particular, is not without foundation. After all that has been written in this country and abroad in favor of conservatism and against "too much surgery," the lessons are still too often left unheeded. For, on the one hand, claims of success are made in premature reports which do not stand the test of time; on the other, indications are imagined when they do not really exist. Those who assume the responsibility of deciding when it becomes necessary to remove the uterine appendages, may

profit by a careful study of the writings of Doleris, Olshausen, Hegar, Lusk, Polk and others who have given this subject conscientious and careful consideration.

A thorough acquaintance with the works of standard authorities is one of the essentials to success; but even more essential than this is an accurate knowledge of the normal and pathological anatomy of the pelvis, and the acquisition of considerable skill in physical diagnosis. In the majority of cases where unnecessary operations have been advised, or where operations have been performed with very disappointing results, I believe it has been due to one of the following causes:

1. Too hasty decision to operate.
2. Mistaking functional disturbances of the appendages for primary lesions.
3. Mistaking hereditary taints and cerebral neuroses for the direct reflex of a local and acquired pelvic disease.

Too Hasty Decision. I recall at least a score of patients who have come to me from other physicians, on whom an operation had been urged as necessary, and who subsequently regained excellent health without it. One of these had been seen but once, examined hastily and told to go to one of our hospitals as soon as possible for removal of the ovaries. Very much worried, she went home, had a good cry and then concluded to see what another would advise. I had no knowledge of her previous experience when she consulted me. I diagnosed the case as endometritis with slight parametritis, and gave the patient a good promise as to recovery, but a guarded one as to time. I noticed at the time the patient asking rather anxiously "if her ovaries were not diseased" but failed to suspect a reason for anxiety. Her digestive function was very much disordered, she suffered with a severe headache, and her general nutrition was below par, as is usual in these cases. Six weeks of rest in bed, douches, careful dieting and tonics made a different woman of her. Her menstruation was painless, she could digest simple food and had gained in flesh; her headache was better but not entirely relieved. Suspecting eye strain, I sent her to an oculist, who fitted her with glasses which improved her head symptoms materially. This was two years ago; she is still in good health, and, when I saw her about a month ago, was pregnant.

Another case was one of well marked salpingitis and ovaritis. She had entered a hospital in a neighboring state and had made all preparations for removal of the appendages, but when the time of the operation arrived she lost courage and fled. As there was considerable swelling of the right tube, and she stated she had been a sufferer for many years, I told her frankly it was very doubtful if anything but an operation would help her, but if she was willing to put herself under treatment for six or eight months she might improve sufficiently to make an operation unnecessary. Nine months from that time she went home apparently well, and had continued to feel well for two years when last I heard from her.

Inflammatory conditions of the ovaries so frequently yield to judicious treatment that in every instance it should have a fair trial before the radical operation is urged. The same applies to inflamed tubes. Catarrhal inflammation of the mucosa of the tubes is usually simply an upward extension of an endometritis, and both may be self-limited. The infectious form is more obstinate and more likely to undermine the general health, and, indeed, often threatens life. But even in these cases if the conditions for drainage are favorable, recovery without removal is possible. Rest, antiphlogistics and drainage will often accomplish wonders. I admit that the cases of ovaritis and salpingitis due to infection, may at some time or other unexpectedly light up an acute pelvic peritonitis which proves fatal, yet this can hardly be regarded as an unqualified indication for immediate removal, for the number of actual deaths from that cause is very small in proportion to the number of appendages thus diseased.

The discomfort due to displaced ovaries is very frequently amenable to milder measures, especially where no firm adhesions exist. Neither displacement *per se*, nor enlargement of one or both ovaries are indications for removal. Both may be the natural consequence of a retroverted uterus, and all the bad symptoms and the enlargement will subside as soon as that organ is replaced and kept in position. Marked ovarian enlargement, associated with grave local and reflex disturbances, may be very transient. It is usually due to venous stasis and is particularly noticeable just before the menstrual period.

The following was to me an instructive case some years ago. I was called to the country to see a patient and her daughter. The latter was lying in bed suffering with severe pelvic pains. The mother stated that the girl, who was fourteen years old had never been well; that she had menstruated for the first time six months previous, and since that time had paroxysms of severe pelvic pain associated with great mental depression. The girl seemed very anemic and not well developed physically, and had been subject to constipation. On making a pelvic examination I found a small retroverted uterus, and the right ovary of the size of a large hen's egg, prolapsed and very tender. The uterus could be easily replaced. The ovary was so large and resistant that I took it to be a small dermoid, but requested the patient to call at my office in a few weeks for a second examination. In the meantime I prescribed iron and laxatives. When she presented herself a month later, the ovary was normal in size and the pelvis free from pain. The patient had menstruated soon after my first visit. The enlargement in this case must have been due to the displacement and premenstrual congestion.

Mistaking Functional Disturbances Due to Other Causes for Primary Disease of the Ovaries and Tubes.—Women whose general nutrition is disturbed, or those who are subject to great nerve strains, and those who are overworked and underfed are very likely to suffer from dysmenorrhœa. Strict attention to diet, change of occupation and rest are indicated in these cases, and will often remove the difficulty without any local treatment whatever.

I have known functional disturbances, particularly dysmenorrhœa and menorrhagia due to the lithic diathesis or constipation, to be mistaken for chronic ovaritis.

Hastening the menopause by removal of the appendages would hardly be the most scientific treatment in these cases.

Mistaking Hereditary Taints and Central Neuroses for the Direct Reflex of a Local and Acquired Pelvic Disease. The removal of the ovaries and tubes has been practiced successfully for severe forms of epilepsy, hystero-epilepsy and different forms of psychoses; but it is very essential before considering this measure in a given case, to determine whether these neuroses

are really reflexes of genital origin, or whether our patient is haunted by the ghosts of a neurotic ancestry. Should the latter be the case, the removal of the ovaries will aggravate the neuropathic tendency.

Some authorities claim that this operation is only justifiable where we can demonstrate the presence of ovarian disease by physical examination. Other equally good authorities claim that, since grave psychical and other reflex disturbances do occur in cases where the seat of the lesion could not be previously determined, the operation is in some of these cases justifiable, since the field for this operative interference is still to be determined to some extent in an experimental way. This belief, however expressed by men of large experience who have given the subject careful study in all its phases, offers no excuse for hasty decision, without acquainting patients and their friends of the comparative uncertainty as to the results in this particular class of cases. Nor does it justify the proceeding to the removal of organs about whose size, form and position the advisor does not even pretend to have any definite knowledge. This I have known to be done. Unfortunately, it is much easier to acquire the technique of the operation than the judgment of when to operate.

In conclusion, up to the present time the experience of our best authorities would define the legitimate limits of the operation as follows:

1. Existence of neoplasms in the appendages.

2. Hernia or prolapse of the ovary, when irreducible and when producing urgent symptoms which do not yield to palliative treatment.

3. To the arrest of the growth of uterine fibroids. Here the limits can hardly be said to be definitely fixed. As a rule, however, the operation may be taken into consideration for tumors which are submucous or interstitial, before the uterus has attained a great size (Olshausen puts it at the size of a four months pregnancy). It may also be considered in fibroids when the symptoms are urgent and when either on account of cardiac weakness or from the presence of nephritis, so common in fibroids, the more radical though more dangerous, operation of laparo-hysterectomy would be attended with too much risk.

omy would be attended with too much risk.

4. Inflamed conditions of the appendages, whose symptoms render the patient's life a burden, and which have resisted a fair trial of palliative treatment. These conditions when complicated by extensive adhesions of the organs, are less likely to yield to mild measures. Even in these cases the breaking up of firm adhesions, after abdominal section without removal of the ovaries and tubes, has been followed by relief of the symptoms.

5. The presence of pus in the ovary and encysted pus in the tube, as a rule require the radical treatment.

6. Marked reflex neuroses whose origin may be traced directly to diseases of the appendages.

These indications can be but general guides; an inflexible rule cannot be laid down. Every case must be studied by itself and at all times removal should be regarded as the last resort.

A Slight Mistake.

An instance where a bad cold caused a startling conversation.

There is a joke being told here at the expense of a modest young newspaper man in a neighboring town which is so good it ought to be true, says the *Bristol News*. The young man in question, it appears, was recently invited to a party at a residence where the home had recently been blessed with an addition to the family. Accompanied by his best girl he met his kind hostess at the door, and after customary salutations asked after the welfare of the baby. The lady was suffering from a severe cold, which made her slightly deaf, and she mistakenly supposed that the young man was inquiring about her cold. She replied that though she usually had one every winter this was the worst she had ever had; it kept her awake at night a good deal at first and confined her to her bed. Then noticing that the scribe was becoming pale and nervous, she said that she could see by his looks that he was going to have one just like her's and asked him if he wished to lie down.

The paper came out as usual the next week, but the editor has given up inquiring about babies.

CLINICAL LECTURES.

RECURRENT CANCER, TALIPES, ABSCESS OF NECK, CRANIOTOMY.

ROSSELL PARK,* A. M., M. D.

I am about to show you a case of disappointment, not to me but to the patient, who came here yesterday from a distance for the purpose of submitting to operation for recurrent cancer of the breast. The trouble was first noticed last January; on March 26, the entire left breast was removed and in May, pain began to be felt in the arm as if there were rheumatism. At the present time, ten months after the inception of the disease, there is great limitation of motion in the left arm. You can see the scar of the operation on the chest, but I find no scar in the axilla where I should like to, because I make it a rule always to clean out the axilla in a case of malignant disease of the breast whether involvement of the lymph-nodes is apparent or not. The disease has evidently extended to the tissues about the brachial plexus and I have told the patient that any operation that would be efficient, would probably be fatal because there is so much to be removed. Disarticulation at the shoulder—as recommended by Esmarch—would be necessary and even this would probably not eradicate the disease. There is no history of hereditary predisposition to malignant disease except that a maternal aunt died of what was in all probability cancer.

The case not being operable, I have suggested inoculation with erysipelas, a procedure which has been found to be followed with beneficial results.

This child, eighteen months of age, has a mild club-foot which requires a severing first of the tendo Achillis, because the toes can not be drawn up, and then of the plantar fascias or possibly of one or two flexor tendons, in order to overcome the excessive arching of the foot. There is also some tendency to inversion but the main trouble to relieve is the shortness of the tendo Achillis. You can readily

supply the technical name of the deformity—talipes equino-varus.

After performing tenotomy I find that the foot can be brought up in flexion but the tightness of the plantar fascia still requires relief and I now divide that structure subcutaneously, passing the knife outward through a small opening at the inner side of the arch of the foot. The foot can now be restored to its normal position and I shall dress it with a starch bandage. You notice that even now, although the foot can readily be placed in the normal position, the inner tendons pull it back into the old deformity just as a horse's head is pulled to one side by a bridal rein. After the wounds have healed, it will be necessary to resort to massage and electricity, applied to the peronei so as to tighten the loose bridle rein and bring the foot around.

Seven months ago I operated on this young woman, who had been walking on the external malleolus on account of a bad form of club-foot. Over the malleolus had developed a large bursa—an instance of a cyst of new formation serving a conservative purpose. The sole was turned up against the other foot. The operation of astragalectomy was made as aseptically as possible and the limb was done up in a plaster dressing. There is still a little soreness of the foot when the patient walks too much but otherwise she has no trouble. You notice that the foot is shorter than the other. This is not due to the operative interference but to previous failure to develop from non-use. The shoe worn is like that on the other foot except that the heel is raised a trifle to compensate for the shortening of this limb. If I had done an ordinary tenotomy here and then relied on a club foot shoe to correct the deformity, the same result would have been attained after two or three years. In as many months she

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has as good a foot from the severer measure of removing one of the tarsal bones in order to straighten the foot. It is a result such as this that justifies the more radical operation. The patient has not yet recovered by any means as much use of the foot as she will later, for she is old enough to aid the surgeon by intelligent co-operation. In the little child on whom I did a tarsectomy four weeks ago, the starch dressing was left on two weeks and a half and then replaced by a plaster bandage. After that is removed, it will be necessary to keep on a club-foot shoe for some months as the child can not be relied upon to make the voluntary effort to roll the foot outward and to "toe out."

"As the twig is bent, the tree is inclined" and, in applying this old maxim to orthopaedic surgery, we must bear in mind the necessity of maintaining the corrective impression night and day. In the case of the little child, direction must be given to the parents to keep the club-foot shoe on continually except as it is occasionally removed for a few minutes to allow massage or for purposes of cleanliness.

This child, eighteen months old, has been brought here with a swelling in the neck which has enlarged rapidly in the last few days. On examination I find fluctuation and presume that the case is one of acute inflammation of some of the cervical lymph nodes. When such a case presents itself to you and there is no ostensible reason for the enlargement, I would advise you to examine the teeth, the tonsils and the ears to see if there is any septic process which may account for involvement of the adjacent nodes. Failing to find an explanation from this examination it would be well to turn your attention to the scalp, for eczema of this region may be accompanied by inflammation of the lymph nodes. The tonsils are like sponges, having crypts which retain infectious debris, and there may follow systemic symptoms from the absorption of this material. Such absorption takes place through the lymph vessels to which the lymph nodes bear the relation of filters. It is in the nodes, therefore, that septic material is retained and suppuration is set up. If the infectious material is tubercular, a tuberculosis of the lymph nodes results which has been called *scrofula*.

Now in such an inflammatory tumor as this, with fluctuation and the tenderness which was manifest before the child was anaesthetised, we can be confident that we have an abscess and I do not think it would be a mistake to make free incision into it. But in order to demonstrate absolutely that the tumor is not an aneurism or a soft mass not containing pus, I will follow for your benefit the absolutely safe method of first introducing a fine needle connected with a syringe by means of which pus is removed. The indication for free drainage is clear. You will notice that the field of operation is rendered aseptic before the knife is used. This may not be necessary since we expect to have it flooded with infectious matter, but few patients who are brought to a hospital are injured by the application of water, the use of the antiseptic solution causes only a moments delay, and we can be sure that, if further signs of sepsis develop, they are due to internal sources and not to any germs that we have introduced. This abscess seems quite extensive and I may have to scrape it out, so that an incision at least an inch long will be necessary. I shall follow one of the creases in the skin so that the scar may not show after it has healed. You might say that in cutting transversely I am in greater danger of dividing vessels, but the abscess is immediately below the superficial fascia and there are no large vessels to be encountered. My finger goes into a cavity the size of a robin's egg after a considerable quantity of pus has been evacuated. The walls of the cavity are thick and tough but do not require so much scraping as I had anticipated. The cavity is washed out with a hydrogen peroxide solution.

On examining the child I have found nothing wrong in the mouth or throat and the ears and scalp are apparently healthy. There must be an underlying cause for every abscess, but I discover none here. Alterative tonics will be administered, the wound will be dressed daily with a little tent of iodoform gauze to prevent the adhesion of the fresh raw edges until the cavity beneath has closed by granulation.

This patient is a little imbecile child on whom I purpose to perform the operation of craniotomy. The word *craniotomy* in

this connection has not its obstetrical meaning, but is used in the literal significance of cutting the cranium. The object of the operation is to divide the skull in such a way as to enlarge its capacity and allow the brain to expand. The term craniectomy has been more recently applied to this operation, but as we cut *out* nothing but the narrow strip of bone that corresponds to the width of the saw, I think that craniotomy is the preferable term. The operation consists typically in making a linear, longitudinal opening in the skull as near the middle line as is possible without wounding the superior longitudinal sinus. The opening I prefer to make on the left side, because it is on that side that the centres of speech and those governing the movements of the right side of the body are located. In the present case I expect to do more than the usual operation, intending to extend the incision in a semicircle or horse-shoe, and spring up quite an area of the side of the skull. This lid or operculum will not be cut loose from its vascular connections, for the soft parts will remain attached to it, and as the bone itself is not broken entirely loose, there will remain a hinge or bridge containing an abundant supply of blood vessels to supply nutrition. You have recently seen another case of craniotomy in which a Y-shaped incision was made, and you know that, whatever the manner of separating the skull, the object of the operation is to afford a relief from intracranial pressure. We have had great difficulty in shaving this child's head, for he would not keep still. Except during sleep, most of his time is spent in jumping up and down on his hands and knees in his crib, playing a kind of idiotic leapfrog with himself. It has been noticed that the child's radial pulse is good on one side and scarcely distinguishable on the other, so that there must be some anatomical anomaly.

Under chloroform anæsthesia, the head is shaved and then cleansed with a mixture of turpentine, alcohol and ether to remove the sebaceous matter. The field of operation is now irrigated with a bichloride solution and the head bound by an Esmarch ligature to prevent loss of blood as far as possible. Towels wrung out of a bichloride solution are used to protect the shaved scalp from the encroachment of

septic germs from the face and neck. The operation will proceed under ether anæsthesia.

The first incision is in the form of a semicircle, seven cm. in diameter, about the left parietal eminence. If I were making an ordinary trephining, I should now dissect up this semicircular flap; but, as its vascular connection with the bone must be maintained, access to the skull is obtained by dissecting away the scalp to the outer side of the incision, and, for the sake of greater freedom, a connecting incision, extending straight backward, is made. With the DeVilbiss saw a groove is marked in the bone. I shall work with chisel and bone-punch in this groove. It is a term of reproach to call an individual thick-headed, but the epithet seems to have an anatomical justification, for almost every idiot on whom I have operated has had an abnormally thick skull. In order to be able to handle the tools intelligently, I am going to learn the exact thickness of bone in this case by means of the trephine. The small button of bone which is removed measures 5 mm., quite an ambitious thickness for a boy of six. Into a skull of this thickness and density the saw would penetrate about as quickly as it would into a piece of marble. It is, therefore, practically useless except to outline the work for the other instruments, and, though I have no great liking for the chisel, it will be necessary to use it in this case. As the bone is penetrated, iodoform gauze is stuffed into the wound to exclude septic material and to prevent oozing from the bone.

I have now succeeded in cutting through the entire length of the groove and the horse-shoe shaped trap-door is pried up with a lever. With the closely approximated poles of a faradic battery, I am trying to produce a muscular response to the excitation of the motor centers in the cerebral cortex. Ordinarily this can be done through the dura mater, but in this case there is no response. There is considerable tension of the dura and I shall divide it parallel to the course of the majority of vessels which are visible, so as to avoid hemorrhage as much as possible. I can get no response to the electrical stimulus even when nothing but the pia and arachnoid intervenes. The tension of the brain is very evident from the way in which it protrudes through the opening in

the dura. Although the pressure has been relieved over this area, it is hopeless to expect a skull as thick as many an adult's to expand sufficiently to allow the proper development of the entire brain. The antipyrin spray (5 per cent.) is used to control hemorrhage and the dura is closed with fine cat-gut. The lid of bone is laid in place and the scalp wound sutured with cat-gut and dressed antiseptically. It will probably be necessary

to keep the child's hands lashed in order to prevent him from tearing off the dressings. The immediate prognosis is favorable, the pulse is better now than it was when the child entered the hospital and there is no reason to anticipate any trouble from the surgical interference. We can hope for a slight mental improvement and even that will be an important gain, but the prognosis, so far as perfect mentality is concerned, is decidedly unfavorable.

COMMUNICATIONS.

THE PRESENT POSITION OF THE HYPODERMIC METHOD IN THE TREATMENT OF SYPHILIS.*

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While the use of hypodermatic injection in syphilis dates back nearly thirty years, the alleged superiority of this method of treatment to all others has been most persistently set forth by its advocates during the last ten years. Their arguments are based primarily upon the shortcomings of the methods of mouth ingestion and inunction, and further upon certain alleged advantages claimed for the hypodermatic method itself.

The specific claims made by those who have been exploiting the method are as follows (Sukhoff, Damman, Elsenberg, Lang, Blazer, Lewin):

1. The practitioner remains "master of the situation" throughout. This is one of the glittering rhetorical generalities indulged in occasionally by our Continental colleagues, which may mean anything or nothing, and to which a definite reply is always difficult. In this instance, under the most limited interpretation possible, it is not warranted by the facts.

2. The drugs needed may be easily obtained in the pure state. This is not peculiar to the hypodermatic method.

3. They may be prepared for use by the physician himself. This, if ever an advantage, is scarcely worth mention.

4. In the use of the soluble salts of mercury a precise dosage is obtainable.

It may be safely asserted that the varying degrees of local reaction affecting the rapidity and the thoroughness of absorption do not give rise to as much variation in the dose as do the differences in absorptive power in the skin and the gastrointestinal mucous membrane.

5. It saves time and labor on the part of both physician and patient, rendering visits more infrequent, etc. This is doubtful, and not very important, if true.

6. It necessitates but little alteration in diet, habits of life, etc. Such alteration, under ordinary methods, is practically only that indicated by the general rules of hygiene, and would be beneficial to most persons, non-syphilitics included.

7. The patient's skin and digestive organs remain unaffected, except in rare instances. This is true, but is offset by the pain, the liability to abscess, and other objections to be described later.

8. Stomatitis is of rare occurrence. This is not correct. The evidence goes to show that with equal care it is more likely to occur during hypodermatic medication, and when it does occur comes on more suddenly and is more intense and uncontrollable than under either of the other methods.

9. It enables the patient to conceal the disease. This may have some little force when the method is compared with the inunction treatment, but is certainly a very minor point in any event.

* Abstract from Transactions of Philadelphia County Medical Society.

10. It lessens expense. This is likewise of little importance, as the difference is not great.

11. It is more likely to affect an entire and permanent cure, and does so in the shortest time and with the minimum amount of mercury. This is, after all, the most important claim that is made, and if it could be established would warrant the adoption of the method to the exclusion of all others. I am of the opinion, however, that it cannot be substantiated, and at any rate am certain that the time has not yet arrived for a final and judicial decision upon the matter. The evidence is contradictory, and is open to the suspicion of bias upon both sides, but especially and notably upon that of the advocates of hypodermatics.

12. In the presence of grave and imminently threatening visceral troubles it affords the readiest and surest way of producing a powerful influence. This may possibly be admitted, although in the great majority of cases there is ample time for the employment of inunctions.

13. In doubtful cases it shortens the time required for the "therapeutic diagnosis." This is scarcely to be included among the advantages belonging to a system intended for routine treatment. It is especially claimed for the hypodermatic use of calomel, and will be discussed in connection with that drug.

The objections to the method may be more briefly mentioned, as I believe they are all well founded.

1. It is painful, and in many patients excites apprehension, and is strongly objected to. It might be added that the measures advocated to obviate or lessen pain, viz., the precedent or simultaneous administration of morphine or cocaine, are in themselves highly objectionable, and certainly to be discouraged.

2. It is occasionally, though rarely, dangerous, and sometimes rapidly fatal. This is undoubted.

3. It is liable to be followed by certain local complications, which are: (a) erythema; (b) painful nodosities; (c) cellulitis; (d) abscess; (e) sloughing.

While the percentage of these troubles is small in the reported cases, it must be remembered that the bulk of the enormous mass of literature referring to it which has accumulated during the last

decade has been contributed by partisans. This prevents me from being much influenced by figures showing, for example, that "in 36,922 injections in 3185 patients, suppuration occurred in 116, or less than one-third of one per cent." (Damman: *Aust. Med. Jour.*, March 15, 1892).

4. It cannot be properly carried on by the patient, but always requires the intervention of the surgeon. In attempting to review the contributions to this department of syphilology I shall not attempt completeness, both because of lack of space and for the reason that so much that has been written is, if not stale and flat, certainly weary and unprofitable.

The chief subdivisions of the hypodermatic method are based upon the solubility or insolubility of the mercurial preparations which are employed, the leading member of each group being respectively the corrosive chloride and the mild chloride.

The technique of their introduction is practically identical in both classes.

(a.) The solution or emulsion used should be sterilized.

(b.) The skin of the region selected for the puncture should be cleansed with soap and water, then with alcohol or turpentine, then with a 1 to 20 carbolic solution, and finally with 1 to 1000 sublimate solution. The hands of the operator should be similarly prepared.

(c.) The needle, which should be larger and longer than the ordinary hypodermatic needle, and the syringe itself, should be washed in 1 to 20 carbolic solution for at least fifteen minutes before using.

Any form of syringe may be employed, the essentials being that it is capable of complete sterilization, works easily and smoothly, and holds the necessary quantity of fluid. For some of the preparations employed a rubber syringe and a silver or gold needle are of advantage. For many of them the ordinary hypodermatic syringe, with the larger needle, will suffice.

Much has been written about the site of injection and its depth. There seems reason to believe that the local influence of mercury is of great advantage, and the existence of a serious lesion at an accessible locality may occasionally determine the point of injection. Usually, however, the post-trochanteric region has been chosen as one which is not subject to pres-

sure or to the observation of others, and which is not especially sensitive. The statement has been made (Taylor, *op. cit.*) that experience shows the thighs to be particularly liable to undergo suppuration, and that they should therefore be avoided. The same advice is given as to the arms and forearms. The only *a priori* reason which occurs to me in explanation is that the constant use and motion of these parts may favor inflammatory changes. They would naturally be selected frequently under ordinary circumstances for hypodermatic medication, and the fact of their special susceptibility to abscess ought to be fully demonstrated before they are excluded from the list of available sites. The regions where the skin is closely applied to bones, those where cellular tissue is scanty and those subjected to pressure in ordinary positions should be carefully avoided, as should those in which suppuration or sloughing would be followed by noticeable disfigurement. As to the depth at which the injection should be deposited, the choice lies between the muscular tissues and the subcutaneous connective tissue. In my judgment the preference should undoubtedly be given the latter, as if abscess occurs it is much more easily managed than if it is subfascial.

The method of throwing in the fluid is identical with that of giving an ordinary hypodermatic injection. A fold of skin should be pinched up and the needle introduced parallel to its long axis and to the required depth. The point of puncture should be covered with the finger of the operator as the needle is withdrawn, and then sealed with a little iodoform in collodion.

All these precautions cannot prevent occasional microbic infection from the deeper layers of the skin, and unless the fluid used happens in itself to be antiseptic, this accident will be followed by cellulitis or abscess.

We may consider the special substances used in the two great groups.

I. THE SOLUBLE SALTS USED HYPODERMATICALLY.

(a). Corrosive sublimate.—The dose is from $\frac{1}{4}$ to $\frac{1}{2}$ of a grain dissolved in about 20 drops of distilled water. It may be given in an average case every second or third day until stomatitis is threatened,

and may then be used at longer intervals. If selected on account of some emergency, larger or more frequent doses may be employed.

(b). Asparagin: Mercury.—Two and a half drachms of asparagin is dissolved in warm water, and oxide of mercury added to saturation. The solution is filtered after cooling, and the amount of mercury estimated. It is then diluted to make a 1 or 2 per cent. solution of mercury as required.

(c). Succinimide of mercury, used in a 5 per cent. aqueous solution in doses of $\frac{1}{4}$ to $\frac{1}{2}$ of a grain.

(d). The oxycyanide has been used by Bœr in 1 gramme (15 grains) injections, containing 1.25 per cent. of the mercurial.

(e). Mercuric Albuminate.—An unstable compound of white of egg, sodium chloride and sublimate; of indefinite composition and liable to rapid deterioration.

(f). The Iodo-tannate of mercury (Nouny) may be used in the following formula:

R	Hydrargyri.....	gr. 1-16
	Iodini.....	gr. $\frac{1}{4}$
	Acid. tannic.....	gr. 3-10
	Glycerine.....	gtt. xv

M.

(g). Carbolate of mercury has been used by various experimenters in doses of $\frac{1}{4}$ to $\frac{1}{2}$ grain dissolved in 15 drops of water.

(h). The formamide of mercury.

(i). Alaninate of mercury.

(j). The benzoate of mercury is preferred by Balzar and Thierloix (*La Méd. Moderne*) who say: "this salt coagulates albumen far less than other combinations of mercury, and hence it exercises a less energetic action upon the cutaneous nerve-filaments. It does not seem to cause gastro-intestinal complications or abscesses, and no case of gingivitis ever went on to marked salivation. The injections may be practiced in any part of the body, but are less painful in the back. The objections to this salt are that many injections are required, that it deteriorates on keeping, and that it sometimes causes induration at the point of application. Cochery (*Thèse de Paris*, 1890) says that the fact that the benzoate does not coagulate albumin is the explanation of its comparative painlessness. He found that this, like other preparations, is not well borne by very stout persons, the presence in the connective tissue spaces of masses of fat preventing the

satisfactory diffusion of the remedy. The same observations have been made by others. Brousse, of Montpellier, prefers this salt to all the other soluble preparations.

II.—THE INSOLUBLE SALTS USED HYPODERMATICALLY.

(a). Calomel, which may be taken as the type of the insoluble preparations, may be used in the dose of one-half to one grain every four days, two grains weekly, or three grains every ten or twelve days. It may be given in one of the following mixtures:

R	Hydrarg. chlorid. mit.....	gr. ½.
	Glycerinæ purificat.....	gtt. x.
M.	Aque destillat.....	gtt. x.
R	Hydrarg. chlorid. mit.....	gr. j.
M.	Mucilag. acaciæ.....	gtt. xx.
R	Hydrarg. chlorid mit. {	aa gr. j.
	Sodii chloridi	
M.	Aque destillat.....	gtt. xxx.

The calomel used should be sublimated by steam and perfectly sterile.

The method in use by Besnier at the Hôpital Saint Louis may be taken as the type, and is, therefore, given in detail: The formula used is calomel, 1 part, oil of vaseline, 20 parts. The calomel is incorporated with the petro-vaseline and well shaken, to put the insoluble substance in as perfect suspension as possible, and the mixture is then boiled a few seconds before making the injection, in order to sterilize it. The operator should wash the hands in a mixture of alcohol and liquor of Van Swieten, and cleanse the part where the injection is to be made with some absorbent cotton wet with the same solution. The needle of the syringe should be cleansed. The choice of location for making the injection is a point of the buttocks, about three centimeters below the crest of the ilium and an equal distance above and to the inner side of the great trochanter. The mass of muscles in this region are favorable for the injection, and they do not support the weight of the body in sitting. The skin is displaced somewhat, so that there is no direct continuation of the puncture of the integument and that of the deeper tissues. The insertion of the needle is done quickly at one stroke down to the guard. By operating in this way the patient scarcely feels its introduction. The injection is then made gently, but a

certain force must be employed to secure a passage of the emulsion into the tissues.

The employment of calomel subcutaneously was originally advocated by Scarenzio in 1864, but was not very extensively used, except in Italy and Germany until the writings of Smirnoff in 1883 and 1886 called renewed attention to it.

During the interval, Sigmund was the most prominent syphilographer who carefully investigated the claims which were made for it, reaching the conclusion that we cannot hope to "cure" syphilis by a few injections of this or any other salt of mercury. Since then it has been used very largely, and its limits of usefulness as well as its dangers are now fairly well understood.

We may consider the latter first.

Locally, there is almost always pain of greater or less severity.

There is almost always an inflammatory reaction, which, when slightly developed, causes merely a flush around the needle puncture, and a feeling of heat or itching. Lasser has reported a case of extensive mercurial erythema. Oftener there is an exudation of lymph with the formation of a hard, horny nodule, moderately tender to the touch and very painful if subjected to continuous pressure. This is usually absorbed if asepsis has been good, but in a certain proportion of cases goes on to softening, to suppuration and to the formation of an abscess. It rarely or never disappears under two weeks, often persists for a longer time, as has been shown by Balzer at autopsies, and its disintegration is sometimes attended with extensive sloughing and cellulitis.

Constitutionally, calomel injections have produced the following unfavorable results. Stomatitis, in spite of the assertions to the contrary, has not been infrequent, is often very persistent, and is sometimes of a very grave variety, attended with all the more dangerous phenomena of pyalism. It is the more serious, as it comes on suddenly (fulminating type), and is very rebellious to ordinary treatment. This intractability is probably due to the continuous absorption going on from the point of deposit of the drug, and has in more than one instance necessitated the excision of the indurated tissue thereabouts (Volger has reported three such cases), and the cauterization of the walls of the resulting wound. Gastro-enteritis and colitis have

occurred (Besnier) and have even been fatal (Kraus), and two cases of pneumonia following a calomel and oil injection have been reported (Klotz), and were presumably due to oil embolism.

On the other hand, the influence of the drug thus used upon the symptoms of syphilis in the secondary stage, and its occasional value as an adjuvant to the iodides in the treatment of later phenomena when grave or dangerous, have been abundantly demonstrated. The most striking results have been obtained in specific eye troubles, but various forms of visual and connective tissue lesions have been reported as rapidly cured by its use.

There can be no reason to doubt its efficacy (if properly administered) during the secondary stage of syphilis. Mercurialization, however produced, is then at its acme of usefulness. There is much more reason to question the reported benefits in all forms of tertiary syphilis. It is contrary to the accumulated experience of the profession to find, in late syphilis, that gummata, periosteal nodes, osteitis, tubercular syphilides and other phenomena of similar character yield promptly to the use of mercury alone. It is undoubtedly of value then as an adjuvant to or in conjunction with the iodides, but on both theoretical and clinical grounds cannot be expected to supersede them.

Smirnoff's reported cases require confirmation. Taylor acutely says: "Smirnoff significantly remarks that if, during a course of injections in tertiary syphilis, aggravation of the symptoms occurs, they should be stopped at once and the iodide of potassium should be substituted."

One possible advantage of calomel may be properly mentioned here. Jullien (*Le Bulletin Medical*, June 19, 1892), calls attention to its diagnostic value in doubtful surgical cases: He says: "The propriety of operating in certain cases is, in the experience of every surgeon, counteracted by uncertainty of diagnosis; an ulceration, a tumor of ambiguous identity, makes one suspect cancer, without casting aside all waverings toward the side of syphilis. The surgeon should, in such a case, institute a course of treatment to throw light as rapidly as possible on the obscure points. Under these conditions, Jullien says he cannot too vehemently proclaim the superiority of calomel injections used according to the Scarenzio-Smirnoff

method: $\frac{1}{10}$ grain (0.097 gramme) of calomel suspended in 15 grains (0.97 gramme) of liquid vaselin, thoroughly sterilized, and injected once into the gluteal muscles under aseptic conditions. He says no one can deny the profound modification which it exercises upon a syphilitic neoplasm, no matter what has been its duration. In five cases which he cites he determined whether a tumor was a manifestation of syphilis or not, in short, whether or not operation was indicated. He adds:

"Calomel by injection presents, in the highest degree, the qualifications of a test-medicine." He thinks that no argument can be brought up in opposition; and that if the surgeon does not utilize this method, "it is not—it cannot be—that he condemns it, but that he is ignorant of it." It may be discarded in the methodic, prolonged treatment of syphilis; but all its inconveniences are obliterated by two indubitable facts in the presence of doubts concerning a malignant degeneration, where "delays are dangerous." These two facts are: "1. That a therapeutic diagnosis of syphilis is clearly defined in eight days by injection of calomel. 2. In case of negative results, this treatment has not impeded the necessary operation in the slightest degree, and does not in the least complicate its results." However, even Jullien says that it must not be used blindly, and that it is best not to employ it in cases of marked albuminuria. If further experience confirms these observations, it will be one of the best practical results following the excessive (and unnecessary) use of hypodermatic treatment which has been the fashion for some years on certain parts of the Continent.

(b.) Metallic Mercury. The dose employed has been from 5 to 20 or 30 grains once weekly, followed by kneading and rubbing of the region.

(c.) Gray Oil (*Oleum cinerium*) is a form of metallic mercury which has been much more widely used. It is prepared by making an ointment or pomade of mercury with lanoline as a basis, and then diluting this with almond or olive oil (Lang), or by triturating metallic mercury with ethereal tincture of benzoin and oil of vaseline (Neisser), or by combining with the mercury and lanoline a two per cent. carbolized olive oil (Althaus).

(d). The yellow Oxide of Mercury. Taylor says that this salt is to-day the most generally used hypodermatically of all the mercurial compounds, having largely replaced calomel. The evidence as to their comparative value is not so conflicting as usual. The drug was introduced by Watrasewski, who gave up calomel on account of the pain and unpleasant symptoms which it produces. His formula is :

R	Hydrag. oxid. flav.....	gr. xv
	Acaciae.....	gr. iv
	Aque destillat.....	℥i.—M.

He uses a Pravaz syringeful, and says that three to six injections suffice for a "cure," which Taylor says, "it must always be remembered, means, in the minds of most exploiters of hypodermatic mercurial preparations in syphilis, the disappearance of a given set of symptoms or lesions." The following remarks of Taylor throw such a strong side light on this whole question of the hyodermatic treatment of syphilis that I quote them fully: "Tchernoguboff uses this preparation in doses of 2 grains every ten or eleven days, injected into the muscles. He says that syphilitic children from 12 to 14 years old tolerate one-grain doses hypodermatically very well, and are benefited. He treated 120 cases, male, and female, young and old, without any untoward complications. It is interesting to remember that Lesser observed abdominal pains, vomiting, and bloody and mucoid diarrhoea after injections of yellow oxide, and never after calomel. The conclusion, therefore, is warranted that we can only get at the truth as regards the advantages and drawbacks peculiar to any and all preparations by the study of the experience of many men. It is never well to rely fully upon the assertions of the exploiter of a new mercurial preparation or combination. Thus we find that Dampkoff used the yellow oxide upon 179 syphilitic women, and that "neither intense pain nor suppuration was produced." Yet these women absolutely refused to allow the continuation of the treatment by reason of the severity of the pain. Then, on the other hand, Reshetnikoff, in the course of 1800 injections of yellow oxide, suspended in vaseline oil, made into the gluteal regions, never met with an instance of local suppuration, and only once saw a diffuse sanguinolent infiltration, which disappeared without any bad result."

(e). The neutral salicylate of mercury.

(f). Thymolate of mercury.

(g.) The black oxide, protiodide, red oxide, tannate, sulphate, turpeth mineral and cinnabar have all been used.

This does not begin to complete the formidable list of therapeutic suggestions that have been made, and, unfortunately for the patient, acted upon during the last few years.

The positive objections to it I have already sufficiently considered. Marked pain, sensitive nodosities, cellulitis, sloughing and abscess, liability to disfiguring and permanent cicatrices, to a sudden and grave type of stomatitis, to violent enterocolitis, to pseudo-paralyses, albuminuria, pulmonary embolism, etc., even if they occur in but a small percentage of cases, make up a sufficiently formidable list of possible accidents to warrant a reasonable hesitation before giving up older and well-tried methods, practically free from danger, in favor of this one.

The objections to it by the patients themselves are a serious obstacle, in this country at least, to the practical success of the method. Even our hospital and dispensary cases are a much more independent class than the same sort of people abroad, and cannot be subjected to wholesale experimentation with the same impunity. In Paris, Fournier has called attention to the fact that syphilitics flocked from the hospitals where this method was being tried to his service. In private practice here it would certainly be difficult of adoption, and while it might be attended by the rapid disappearance of symptoms, there would often be an equally rapid disappearance of patients.

The figures which are gradually accumulating, tend already to show that its employment, according to current formulæ, brings with it another danger, viz., that involved in the encouragement of insufficient treatment, in the dependence upon the short and heroic courses, which, as Hutchinson says, are often followed by the gravest and most serious tertiary phenomena.

The claim that by a few injections the time of treatment can be measured in months, or even in weeks, instead of years, would seem, as Mauriac has said, to involve the idea that mercury given hypodermatically acquires some new and powerful curative property which, given in

other ways, it does not possess. As a matter of fact, when we inject the insoluble salts, we are merely leaving the chemistry of their transformation into the soluble compounds to the tissues themselves; when we inject the soluble salts we are simply reaching the general circulation by a somewhat more direct method than when we approach it through the capillaries and absorbents of the skin or the gastro-intestinal tract.

I believe that, on the whole, while the final outcome of the experiences of the last few years will doubtless be for the advantage of science and the extension of our therapeutic methods, the information thus acquired will be at the expense of many patients who will suffer from the direct consequences of the method itself or succumb to the ultimate development of insufficiently treated syphilis.

In England, Hutchinson, who is, *facile princeps*, the leader of British syphilographers (and who, in my opinion, is, with the possible exception of Fournier, the leading syphilographer of the world) says: "Hypodermatic injection has come but little into employment in English practice, nor does it appear to increase in favor with those Continental surgeons who at one time thought highest of it."

In this country Taylor, so far as I know, voices the prevailing sentiment among specialists in this branch when he says: "The extent of the literature of hypodermatic injections in syphilis contributed within the past ten or twelve years is simply appalling, and there is really very little which is of practical value. It will be seen that almost every preparation of mercury has been experimented with in the hypodermatic injection treatment, and that the chemist's art has been sorely taxed to produce new preparations. Each new preparation has been exploited as the ideal of perfection, and in most cases a hearty welcome has been accorded it, so that a witty German reviewer has made the following paraphrase of an old maxim applicable to the subject: 'De novis nil nisi bonum.'"

As to the injection of insoluble preparations, he says he has no leaning toward its employment, and that he is firmly convinced that it will never be used as a systematic treatment extending over a period of years. He adds: "It is a treatment which is generally irksome and repulsive

to patients, always attended with more or less discomfort and pain, and often producing destructive subcutaneous lesions over the body, which cause mental and physical suffering, and which of necessity must impair the patient's health and strength. In some cases we have seen, it has been known to imperil and to destroy life."

The soluble preparations he uses, as do most of us under various limitations.

In the light of the evidence presented above, it seems to me safe to assert that: The hypodermatic treatment of syphilis has not as yet shown results which warrant its adoption as a routine method to the exclusion of or in reference to other methods, but, on the contrary, has some apparently insuperable disadvantages and even dangers which render it improbable that it ever will be so adopted.

2. The circumstances under which hypodermatic medication should be employed may be summarized as follows: *a.* Those cases in which other methods of treatment have been tried and failed. *b.* Those cases in which, owing to idiosyncrasy or intercurrent disease, the skin and the digestive tract cannot be used for the introduction of mercury. *c.* Those cases in which, owing to grave and advancing lesions, rapid mercurialization is absolutely necessary. *d.* Those cases in which obstinate localized lesions can be most directly reached by this plan. *e.* Possibly those cases in which early differentiation between syphilis and malignant disease, or tubercular ulceration, is extremely important, should be included in this list. I certainly feel inclined to employ the method in all doubtful cases which admit of it, particularly in those conditions of the tongue which often leave the surgeon for a considerable time in doubt as to their exact nature. Anything which promises to shorten this period of doubt by rendering the therapeutic test more rapid and more certain would be of great advantage. I should, however, in such instances feel obliged to use potassium iodide by the mouth at the same time. *f.* A theoretical possibility of the employment of mercury hypodermatically has suggested itself to me, but I have not as yet actually employed it. It may be that its use by this method will aid in shortening the period of doubt which often intervenes between the appearance of the primary sore and

the development of general adenopathy or of the exanthemata. If, in the presence of a sore of uncertain character, the employment of mercury hypodermatically resulted in rapid cicatrization, no local treatment being employed other than cleanliness, it might occasionally throw light upon the case without being open to all the objections which attend the systematic and slower administration of mercury by the mouth. It is possible that the idea is worth a trial in exceptional cases, but I do not think it should be adopted as a routine practice.

3. As to the choice between the two great classes of mercurials, the soluble salts are to be preferred to the insoluble in the large majority of cases, as more exact in the matter of dosage and much less dangerous and less likely to be followed by local disturbances. They are always to be used when there is need for rapid mercurialization.

The insoluble salts should probably be reserved for those cases in which frequent visits to the surgeon are impossible and in which no contra-indications exist. In cases of defective kidneys, diabetes, profound anæmia, marked atheroma, great debility, etc., such methods are danger-

ous, and the case, even if urgent, will probably do better under some other form of treatment.

4. Finally, as to the special preparation to be employed: Among the soluble salts the bichloride is probably to be preferred. The results from its use are not strikingly different from those obtained from the other compounds of this class, but its stability and great solubility and its germicidal qualities seem to warrant its selection. The disadvantage is the pain which it causes, but the evidence in this direction shows that in the hands of impartial investigators, not responsible for the introduction of the particular substance employed, each of the salts on the list produces a considerable amount of pain and a not inconsiderable number of accidents or complications. Probably the bichloride is freer from objectionable features, in respect especially to the production of suppuration, than any of the salts of mercury.

Among the insoluble salts calomel and the yellow oxide are to be preferred. It would appear that the latter is a little less active, but at the same time much less irritating. Gray oil is the most available form of administering metallic mercury.

A COMPOUND DISLOCATION OF THE LEFT ANKLE, AND FRACTURE OF THE INTERNAL MALLEOLUS—ASTRAGALUS AND INTERNAL MALLEOUS EXCISED.

CHARLES B. WILLIAMS,* A. B., M. D., PHILADELPHIA.

F. M., æt. 43; white; married; was admitted to the Pennsylvania Hospital on the afternoon of June 29, 1892, suffering with a compound dislocation of his left internal malleolus, the result of a fall from the third story of a building which he was painting. There was a large lacerated wound over the external malleolus (or the place where it is normally situated,—for in this man the external malleolus, as well as the fourth toe with its accompanying metatarsal bone were congenitally absent) through which wound protruded a portion of the articulating surface of the astragalus. The foot was warm and the

arteries intact. The patient was considerably shocked upon admission, temperature 99°, pulse soft and compressible. He was given hypodermics of strychninæ sulph. gr. 1-40 with tr. digitalis m. x. before the operation, as well as several hypodermics of ether and one of atropiæ sulph. gr. 1-120 during the operation.

Operation. The patient was etherized, the wound slightly enlarged, and the astragalus severed from its attachments by means of a probe pointed knife, and then excised. In like manner, the internal malleolus was also removed. The articulating surface of the tibia was next sawed off. As the anterior and posterior tibial arteries were uninjured, only a few small

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veins required ligation. After a rubber drainage tube had been inserted in the wound, its edges were united by means of silver wire sutures. The limb was dressed antiseptically and placed in a fracture box.

The patient was now ordered ammon. carb. gr. v. every $\frac{1}{4}$ hour, whiskey drs. ij. hourly, and tr. digitalis gtt. v. every four hours, the frequency of the doses to be diminished as soon as the patient reacted.

At 9 P. M. there was considerable oozing through the dressings which necessitated their being reinforced with bichloride cotton.

June 30, 1892. Oozing from the wound has ceased. Limb is in good position. Patient complains of his back hurting him, for which warm leadwater and laudanum was ordered. Has no pain in his ankle.

July 3, 1892. Limb dressed to-day. The edges of the wound appear to be well approximated. No discharge through the drainage tube, which was now shortened a little.

July 13, 1892. Dressed yesterday. All of the silver sutures were removed. There was but little discharge. The tube was further shortened and the limb dressed as before. The position of the foot and ankle is excellent.

August 13, 1892. The fracture-box dressing was discontinued to-day. There is scarcely any discharge from the wound now. There seems to be some slight motion in the ankle-joint. In place of the fracture-box two lateral splints of Russian felt, moulded accurately to fit the limb, were applied with a small antiseptic dressing, and the patient allowed to be up and about in a wheeled chair.

August 16, 1892. Wound is entirely healed. The patient walks quite well with the aid of crutches.

August 17, 1892. The patient went out on a pass to-day and eloped.

September 7, 1892. The patient came back to the hospital to-day. He still uses crutches. There is some slight motion in the ankle-joint. The wound has entirely healed. The shortening amounts to about $2\frac{1}{4}$ inches and the patient walks on the ball of his foot with the heel elevated. Ordered to procure a shoe with a "built-up" sole.

The patient walked into the hospital about four months ago. He had aban-

doned crutches and was wearing a shoe with only the heel "built up." Consequently he experienced considerable discomfort in walking and his ankle tired very easily. There was considerable motion to be observed in the ankle now. The patient was ordered to have the sole of the shoe, as well as the heel, built up for $2\frac{1}{2}$ inches and then to return and report to the hospital. This last request he has never obeyed.

Aristol in Hemorrhoids.

To establish a radical cure, all causes to be ascribed to a faulty diet strong drinks or want of exercise must first be removed, says Dr. Engle (*Med. Summ.*). Then every morning and night, and in severe cases every three or four hours, about one ounce of cold water is injected into the rectum and allowed to remain as long as possible. Morning and night the following suppository is applied:

R	Extracti opii.....	grs. iij
	Extracti belladonnae.....	gr. j
	Quiniae muriat.....	grs. xxvj
	Aristol.....	5j
	Olei theobrom.....	
	Cerae albae.....	aa q. s.

M. Et fiant suppositoria No. vi.

Sig.—One, morning and night.

Immediately after each movement of the bowels the following salve spread over the point of the index finger is pushed up into the rectum for about one and a half inches, and some upward pressure is exerted by the external sphincter.

R	Unguent zinci benzoat.....	5j
	Balsam Peruvian.....	5j
	Aristol.....	grs. xxx

M. Ft. Ungt.

Sig.—Externally.

While, internally from one to two heaped teaspoonfuls, in plenty of water, are taken two or three times daily of the following powder:

R	Sulphur. flor.....	
	Potass. bitartrat.....	aa 5j
	Mt. Ft. pulvis.	

—*Medical Review.*

FOR PAIN IN THE EAR from inflammation, Dr. John Dunn (quoted in *La Semaine Medicale*) recommends the following:

R	Menthol pulv.....	
	Camphor. pulv.....	aa gr. xx
	Vaseline liquid.....	f5j

M.

Sig.—Instill a few drops into the ears several times a day.

For Vomiting after Etherization.

Prof. Hare (*Coll. and Clin. Record*) recommends the following:

R	Tinctura opii deodoratæ.....	gtts. xxx
	Sodii bromidi.....	grs. xxx
	Aque amyl.....	5j or iij

M. Sig.—As an enema.

SOCIETY REPORTS.

THE MEDICO-CHIRURGICAL SOCIETY, OF LOUISVILLE.

Stated Meeting April 14, 1893.

THE PRESIDENT, Dr. F. C. Simpson, in the Chair.

STENOSIS OF THE OESOPHAGUS.

DR. F. C. WILSON: This specimen is from a patient, male, aged about fifty-seven years, who had always been perfectly healthy, that is he had never been under a physician's charge, although never robust in appearance. He commenced having some difficulty in swallowing which gradually increased to such extent that he became uneasy about it, and he began at the same time to vomit. He never had any very severe pain of any sort; gave no history of having swallowed any poison or corrosive substance, and was of course at a loss to account for the trouble. When I saw him, I found that he was able to swallow liquids, but in an irregular way. Sometimes he would be able to swallow then for a day or two, at other times for some days he would hardly be able to get anything down. When anything would pass down, after a while a good deal of it would be regurgitated. He gradually grew worse until he was considerably emaciated. I questioned him concerning his symptoms, as to the possible inheritance of cancerous trouble, as to his having swallowed any substance like a piece of bone, or any corrosive material, but found that he gave no history of anything of that nature. I could locate by auscultation some obstruction during the act of swallowing near the lower end of the oesophagus; I could hear it distinctly as he would swallow while I listened over the course of the oesophagus. I suggested to him that I explore the oesophagus, at the same time pass any obstruction that might be there by means of the bougie or feeding tube. During auscultation I listened carefully for evidence of aneurism or bruit thinking there might possibly be some obstruction due to that, but nothing of the sort could be heard. The patient complained of no pain such as we usually find in aneurism occurring in proximity to the vertebral column; we know that gives rise to severe boring pain due to breaking down of these

vertebræ by impact of the developing tumor. Nothing of the kind could be elicited in the history and there was no evidence of any aneurismal enlargement.

I made an engagement with him and visited him for the purpose of introducing a tube. He was a very timid and nervous man and I had some difficulty in passing the tube, but I could distinctly recognize the obstruction when that point was reached. I succeeded in passing an ordinary rubber feeding tube and poured through it a fairly good meal of milk and after that for several days he was able to swallow with a great deal more ease. I made another engagement with him for several days later, but before the time was reached he sent word that he was swallowing so much better he believed he would postpone it. I saw no more of him, and six months afterwards I saw notice of his death. He passed into the hands of some Homœopathic physician; he grew gradually worse and more emaciated, and finally death occurred from exhaustion. I was called to make a post mortem in the case. I made the autopsy and secured this specimen which I present here to-night with the idea of getting the opinion of the society as to the nature of the enlargement. No microscopical examination has been made thus far. In making the post mortem examination I opened the chest and found no trouble to account for death until I reached the oesophagus. I removed the entire mass, oesophagus and stomach, and in slitting open the oesophagus I found near the lower extremity some excrescence-like growths which involved the lower portion of the oesophagus and extended through the cardiac orifice into the stomach. This enlargement or growth looked very much like an excrescence, not nodulated and not hard. The stomach was very much contracted. There was no involvement of the neighboring organs, of the liver or spleen. I believe Dr. Coomes saw the case a number of times and passed the bougie, but what his opinion was as to the nature of the trouble, I am unable to say. One Homœopathic physician

who saw the patient, I think, made diagnosis of aneurismal enlargement of the aorta. Nothing except a careful microscopical examination can clear up the exact nature of the case

DISCUSSION.

DR. J. A. LARRABEE: I have had quite a number of cases of stricture of the œsophagus, eight or ten probably, covering my experience in practice. I have one now that I would like to turn over to the Homœopaths. I think this is a capital idea. The patient referred to came to my office about two weeks ago; I started in by passing an Oliver bougie, smallest size. After three dilatations in that way I passed the larger one, which is the largest size of four bougies in the set manufactured by Oliver. I told him I thought that amount of dilatation would give him some relief and fully expected it to do so, whether it was temporary or otherwise, but contrary to my expectations, he reported that it was no better an hour afterward so far as swallowing was concerned than it was an hour before. I scraped some of the material from the tube after withdrawal and handed it to Dr. Vissman for examination. This patient is not emaciated and presents a very fair appearance. There is no cancerous cachexia, neither has he a cancerous history. Now I believe this man is going the way of the other case of stricture of the œsophagus reported, but just what the nature of the stricture is, I do not know. The case has only been under my observation for two weeks, and he has been unable to swallow anything except fluids. Auscultation locates the obstruction about midway of the œsophagus, you can hear it "chuck" there just as plainly as you could a bucket, then the fluid slowly trickles down.

DR. A. M. CARTLEDGE: It seems to me in cases of this character the first thing to establish is "stricture of the œsophagus" after that fact has once been established usually there is but little difficulty in determining the nature. Certainly there should be very little trouble after death has taken place. It seems to me differentiation should be very easy. True stenosis of the œsophagus is cicatricial or malignant. Cicatricial stenosis is the result of syphilitic ulceration, more rarely tuberculous and very commonly the result of trauma.

In the case reported by Dr. Wilson,

without a microscopical examination I do not think anyone should pass a judgment, but my opinion is that it is clearly malignant disease. It is not syphilitic, it is not tuberculous, and I take it from the size of the deposit and the macroscopical appearance that it is carcinoma, and believe that the microscope will prove it.

DR. J. A. LARRABEE: Would it be possible if it were carcinoma without any ulcerative stage set up, to have told from the secretions whether it was cancer or not?

DR. WM. VISSMAN (Visiting): I do not think there is any possible way of telling whether it is cancerous or tuberculous, or anything else, unless you get a particle of the tumor, and you could not get this without there was a breaking down.

Concerning the specimen exhibited by Dr. Wilson: From a macroscopical examination I think there is no doubt about its being a carcinoma. One peculiarity about the tumor is that we cannot discover the exact line of the stomach, that is where the stomach has been taken off. Another peculiarity is that carcinoma of the œsophagus very seldom or never, we might say, extends into the stomach. It may be that the microscope will show that this is nothing more nor less than a carcinoma of the œsophagus.

DR. F. C. WILSON: I had mapped out a plan of management of the case which possibly may have had something to do with scaring him off. I had spoken either to the patient himself or a friend of the advisability of feeding him in the way that I had attempted to do, and if that failed then of putting a tube into the stomach from the outside so that he might be fed in that way. Of course, if the tumor proves to be malignant in character, it would eventually have caused death, but I believe his life might have been prolonged by the insertion of a tube into the stomach. He was greatly emaciated, and certainly died from sheer exhaustion. Had the tube been inserted in the stomach from the outside, his life might have been prolonged possibly several months at least.

NOTE: A subsequent microscopical examination of the specimen by Dr. Vissman clearly proves the trouble to have been of a cancerous nature.

Cornelius Skinner, M.D., then read a paper on

CONSTIPATION.

Of all minor troubles to which the attention of the practitioner is called, I am persuaded that constipation is the most common and, I am equally bold to say, the most intractable in its cure. It is my purpose in this short paper not to treat of constipation in all of its forms, but to take up that one in which constipation seems to be the disease and not the symptom. Stricture, fissure, hemorrhoids, spinal lesions, tumors, etc., will not be spoken of, but rather that form in which we find tardy and difficult defecation, with hard, scibalous stools. We will not use the time in rehashing the symptoms and effects in general, but go direct to the form in question.

A large majority of these patients we find among the women, and most usually from 15 to 30 years of age. The usual chain of symptoms are given and, on casual questioning, we find that they have had time for and paid more attention to everything else in life than to the bowels. They are punctilious in all engagements, regular at meals, etc., but not at stools. The most trivial affairs, social and otherwise, causing a postponement of one of the most important calls of nature to a more convenient season, which is usually the next day. Again, we find not all typewriters, teachers, etc., or people who lead a sedentary life, but just as often floor-walkers, postmen, or those who take a good deal of exercise, with good digestions and appetites sufficient. One thing is noticed in, I might say, all of this class, and I consider it the prime cause of all trouble, viz: These people do not drink a sufficient quantity in twenty-four hours for nature's demands. They are noticeably small drinkers, and never take water unless prompted by thirst or at meals, and then will drink to excess. The majority of people in general drink too much while eating, thus diluting the juices of digestion to a degree which will eventually impair digestion. It is not easy for us to realize the amount of water thrown off by a healthy man or woman in twenty-four hours:

By the kidneys we lose.....	42 ounces.
By the lungs we lose	23 ounces.
By the skin we lose.....	15 ounces.

Now contrast this with the amount taken in during the same time, and we find little enough left for the bowels under most favorable conditions, and when

we lessen this by one-fourth or one-half, we find nothing left to keep the stools soft and in the proper condition to be, by peristalsis, packed down into the sigmoid, ready for prompt and easy expulsion.

Constipation may be called the machine of "perpetual motion;" for, when once started, it perpetuates itself until checked by proper causes. Now I admit that we must find the cause for all things, and then remove that cause in order to effect a cure; and, in this very common form just spoken of, to relieve it, we have simply to furnish that deficiency of water in the proper way, and the cure is effected.

It is my custom not to employ any of the waters now sold for constipation; first, because they will not cure, but establish in the bowel that habit which we want to avoid, of waiting to be driven into action by laxatives; secondly, they are expensive.

As I have said before, this water should not be taken at meals, nor too close to the meal hour, but long enough before in order that it may have time by absorption and otherwise to pass out of the stomach into the circulation and bowels below. I have the patients to drink an ordinary tumbler full of cold water thirty minutes before breakfast, dinner and supper, and to take the fourth at retiring, giving sixteen ounces or one pint in addition to that taken at meals as coffee, milk or tea, and during the day when thirsty. Except in very obstinate cases this simple remedy gives me most gratifying results. In those intractable cases I generally use a little pill of aloes, belladonna, strychnia and podophyllin each night or less frequently during the week as the exigencies of the case require. There will be failures on the part of the water and much disappointment to a few patients who put their trust in this remedy, but if this plan is followed systematically in from two to six weeks we will get good results. As an apparent exception I wish to mention a case of constipation that has given me no little concern in the past three weeks.

Patient a tall, slender woman, raised in the country, of good health and family history; age thirty-nine years; married about two years; baby five months old. This woman first consulted me in the beginning of gestation for nausea and a small tumor in the left groin just about the site of inguinal hernia. No positive

diagnosis of tumor was made, but I assured her that it would play no part in her confinement, and advised leaving it alone, there being no pain or other symptoms to attract attention. Constipation was quite a factor during gestation, and remained so afterwards, but was tolerably well controlled by the water treatment with the addition of a small glass of Hunyadi water before breakfast. On the night of March 21st I was called and found her suffering intense pain just over the symphysis and tumor mentioned; pain did not intermit but was continuous; tumor very sensitive to touch, almost constant nausea. My first impression was strangulated hernia; bowels had moved in the morning after the water was taken; pain began at five P. M. and this was eleven P. M. Usual domestic remedies had no effect; pulse 95°; temperature 98½° F. After watching the pain for an hour and still hesitating between strangulated hernia and colic, and realizing the importance of a positive decision, I called Dr. Rodman in consultation. The Doctor meeting me in one hour, pain in the meantime had shifted into the epigastric region and had become much less. This changed the aspect somewhat, and we both concurred in its not being strangulation but colic. We concluded our visit at three A. M., but left a hypodermatic of morphia and atropia to be given by the husband if the pain grew worse. I saw the patient next morning at nine o'clock. She was comfortable, but much nauseated; pulse 75, temperature 98½° F. Nausea lasted all day and following night. On the morning of the 23d still great nausea; pulse 100, temperature normal; hot water ordered, which controlled nausea. Met Dr. Rodman on the street, and we agreed to give calomel in one-grain doses until bowels were moved or six grains had been taken. At 2 P. M., pulse 110, temperature normal; patient very restless and slightly flighty; calomel was begun. Dr. Rodman saw her with me at 10.30 P. M. Pulse 120, temperature normal; restlessness increased, with very marked flightiness; no move from bowels. We now believed that there was some internal obstruction, and so expressed ourselves to the husband and, at the same time decided to open the abdomen in the early morning if there was no change for the better. This he very positively sat upon, because

her mother, living in the country, was not here to counsel. However, we felt that all responsibility had been assumed by the husband.

Expecting to find the patient worse by morning, we left; but with the determination of going back early and prepared to operate at once. Drs. Mathews, Cecil and Bullock were asked to meet us; we met at eight A. M. 24th, to find pulse 100, a drop of 20, temperature 98½° F., no restlessness, and patient much better. Since the mother could not reach the city before seven P. M., we all decided to wait. Patient held her own until the 30th, when nausea again appeared with pulse 120 and temperature 99½° F. Calomel was given in doses of one grain every hour for six hours but with no effect. On the afternoon of the first instant, castor oil in capsules one drachm each, was given every two hours to be kept up until bowels moved, or eight were given; after twelve hours bowels moved copiously and thus ended to us a most puzzling case.

I will say that frequent colon irrigations were made by myself, with and without glycerine.

The point I want to make in the paper is, in this class of cases where we find no especial reason for the constipation, water given in the manner as described will result in a cure in most of them. The results of this treatment in my practice have been most gratifying.

DISCUSSION.

DR. J. A. LARRABEE: I do not think a paper as interesting and instructive as the one presented by Dr. Skinner ought to go without remarks. I will say that when I received notification of this meeting and saw the name "Constipation" as the subject of the essay, I felt "bound" to come. The importance of what Dr. Skinner has said in regard to a "minor" condition becomes in the mind of every practitioner a "major" condition. The importance attached to the movements of the bowels may be best estimated by the love of people for cathartics. All a man has to do to make his fortune is to get up a cathartic pill or a powder for the same purpose. The desire of the community to be purged amounts almost to insanity. I do not suppose there is a board fence this side of Bullitt County that has not painted upon it something for regulating the bowels. There is not a peak in the Rocky Mount-

ains so high that somebody has not climbed up to put Vinegar Bitters or Carter's Liver Pills on it, so you can judge somewhat of the importance attached to purgative medicines. Regulating the system and keeping the bowels in a soluble condition cannot be over-estimated, and I am one of those who believe in the poisonous effects of retained material in the bowels; if we have a disease called "Uremia" from retention of the urine, I do not see why we cannot have diseases dependent upon "stercoræmia." Many people may have died from causes produced entirely by constipation.

There is one point which has struck me all along while engaged in the practice of medicine, and that is the success of Quacks who use nothing else than aloin purificata in the treatment of chronic diseases. You can take it for granted that when a man starts out with patent medicines, medicines which he himself has patented and advertises for the cure of chronic diseases, that he is giving aloetic purgatives, and another fact that is not sufficiently weighed by physicians in debarring the Quack is that he succeeds in relieving many of these chronic cases. Any old chronic case of anything, I do not care what it is, whether rheumatism, gout or whatever it may be, is more or less relieved by a severe purging. That is where the Quacks get in their work, they help every case of that nature, old patients, men who have been drinking a good deal. I know of half a dozen cases here where old chronic cases of mine have brought medicines from men who were selling them along the street, the vilest compound ever put up, a decoction of aloes and horse aloes at that, and every one of them were relieved, and relieved for quite a while. I speak of this, gentlemen, just to call attention again to these forgotten facts of our law, where we fail in the course of treatment to secure free daily alvine dejections. We can administer a tonic, we can administer iron, tonics for anæmia, spanæmia or hydræmia and the iron does very little good; we do not get the reddened blood corpuscles, nor do we get the characteristic effects of the iron. In this particular the iron waters do more good than our iron simply because they combine purgative salts with the iron. It was the custom of the old school to purge, to vomit, and to bleed;

this was the circle of therapeutics around which they moved, and certainly they were on the right track so far as purgation, dieting, etc. were concerned. I think we are forgetting a great deal of the dietary system, and our patients would probably be better off if the old regime were adhered to a little more closely. For instance, I see every day cathartics ordered, of different kinds, chologogues, etc., and the patient allowed to eat what he pleases; the old style was to make corn meal gruel, or oat meal gruel and while the patient was being purged he had to take this kind of a diet. Nothing has been said about the idea that constipation is dependent upon the rapid absorption of water from the intestinal tract. The rectum is a drying machine if it is anything, and so situated as to prevent our becoming nuisances to ourselves, taking up the water from the rectum and drying the feces in the proper shape. Now those people who are constipated have very rapid absorption of water, unless you force large quantities upon them, which means certain cure; it need not be water laden with medicinal elements, simply water (being sure that it is fresh) and use it "on account of its being water," preventing this rapid absorption and allow the feces to be liquid.

The case reported by Dr. Skinner is an exceedingly instructive one, and one which comes up every now and then in practice. The Doctor has said very properly that it is a most puzzling case to present. For some reason we always think the worst about our patients; we are apt to think of appendicitis, then of colic, then of intussusception, etc.; and in this case there seems to have been about this line of symptoms. Yet it was evidently a case of torpidity of the bowels, with no great accumulation of fecal matter.

Referring to Dr. Skinner's statement that many of these cases take sufficient exercise. This is not in accord with my observations of chronic constipation. I believe that the cæcum is so constructed, whether it is the design of nature to do this or not, that walking exercise has an effect like rubbing the cæcum, on account of the muscles which pass behind it. The cæcum is moved when a person is walking, which is not the case by any other means, except possibly riding a bicycle; and this point I understand is to be brought out

later in this society, as a committee has been appointed to make some investigations in that direction.

Now as to medicinal agents. We all know that purgatives, given *per se*, are injurious in a case of this kind. They call upon the peristaltic action of the bowels; and every time this is called upon the natural power of peristalsis in the bowel is lessened. Consequently, the more purgatives a person takes the more he must take, and all of them after a while lose their effect. In those cases where medication becomes necessary, I believe it is far more sensible to administer an agent which shall paralyze the inhibitory nervous supply and stimulate the sympathetic nervous supply. For this purpose I do not think there is anything equal to belladonna and strychnine. The "little pill" of belladonna, aloine and strychnine I believe to be the best known combination. These are agents which do the work of paralyzing, and I believe, in these cases, if morphine and atropine were given hypodermatically, you would have the desired effect without calomel. The check on the pneumogastric nerve as it is distributed to the bowel is lessened by belladonna; it paralyzes that nerve, allowing the feces to become free. I do not think we have, in the list of medicines, an agent which will do the work that belladonna does in this particular; not belladonna alone, but all its congeneric mydriatics, and all the mydriatics, act in the same way if we add to them strychnine, which possesses in itself a tonic effect for the bowels.

I have seen several cases of chronic constipation in infants. In these cases I have found that rubbing or kneading the bowels with the hands for five or ten minutes produces an alvine defecation. We want of course to increase the tone of the bowels but I would urge the use of simply large quantities of water as this alone will usually produce catharsis.

DR. D. T. SMITH: The subject up for discussion as stated by the previous speaker is regarded as one of special importance. Dr. Skinner has narrowed the discussion very much by limiting it to functional constipation. The case reported by him may or may not have an application as illustrating a principle; I rather think it has not. It may be more reasonable to suppose that there is an adhesion at some point in the colon in the case of his patient

and the peristalsis arising at that point after narrowing might be sufficient to cause that condition. We very frequently find that. However we do not often observe vomiting in cases of functional obstruction. There is sometimes paralysis or peritonitis of that small portion of the intestine, which might be sufficient to cause death. I think from the history that the trouble is simply an adhesion causing a narrowing of the intestine or an arrest of peristalsis at same point.

Concerning the treatment of constipation: As this is a condition which is usually suspected to arise from an accumulation or obstruction of material that ought to have passed out with the fecal discharges, the most important thing is to relieve the patient of this obstruction and then administer remedies which are known to have a stimulating effect upon the bowels.

I reported before this society sometime ago, a case which Dr. Roberts saw with me, in which preparations were not exactly made, nevertheless everything was gotten in readiness to do an exploratory laparotomy for the relief of constipation. There was stercoraceous vomiting and other symptoms of obstruction. However, before the time to operate, we gave the patient a pint of sweet oil, knowing it to be a safe remedy in any attack, and the result was an almost immediate disappearance of the distressing symptoms, the patient recovered and is in fine health to-day. In this case there was retroversion of the uterus, some post-pelvic peritonitis and evidence of adhesions which probably accounted for the trouble.

As Dr. Larrabee has said, the two remedies most relied upon in the treatment of constipation, as they do not irritate, are belladonna and strychnine, because they stimulate the muscular coat of the bowel, and by stimulating its action developing a strength that overcomes the atonic condition. As far back as 1861, I know that belladonna, nux vomica and compound extract of colocynth were given in this way. Aloes act as a stimulant in a similar way.

In regard to the use of water: There are two respects in which water will be beneficial. In the morning when we rise (with those of us who are subject to an accumulation of mucus in the lungs and

stomach) the whole alimentary canal is covered with mucus accumulated during the night, and water taken early and freely will reach the lower bowel without being absorbed. Ordinarily there is an abundance of water passing into the blood and then back into the large bowel because we know a considerable number of substances are carried into the circulation and then back again through the large intestine, not reaching the small intestine. Therefore, about the only way to have water reach the small intestine unabsorbed is by taking it in the early morning. I find many patients unable to take more than a glassful immediately on rising owing to the nausea produced, and it becomes necessary for them to wait for a few minutes until this feeling passes off before taking a second glass. I direct them to take three or four glasses, if they find it necessary, or if less fails to do the work, until a sufficient quantity of water is taken before breakfast to secure an action on the bowels shortly afterward. I think one of the most important things in this connection is that we should have a certain time for evacuation each day. The absence of a fixed period for an effort at stool may be the cause of the trouble in many of these cases. Any person not giving the bowels opportunity to act at a given time will necessarily become constipated, even if the alimentary canal is in a healthy condition; then I think it is not a bad plan for awhile to induce excessive or over-action.

I believe if proper attention were given to the matter of having a regular period for evacuation of the bowels, and patients instructed to drink water in the early morning, and a sufficient amount later in the day, that the administration of cathartics could be done away with to a great extent. I am aware while I am saying this that there are a great many people who cannot drink water, cases of of gouty diathesis, etc., and for this class of people salines can be given which will carry the water through the stomach, which otherwise could not be done.

DR. F. C. WILSON: I have been in the habit of using hot as well as cold water. Hot water is not quite as pleasant perhaps, but with the addition of a little lemon juice or salt it becomes really palatable and patients get very fond of it. I believe hot water preferable to cold, as it

reduces the supply of blood in the capillaries of the walls of the stomach, which thus warmed up is driven directly through the liver, through the pancreas and neighboring organs, stimulating them to increased activity, and we have necessarily increased supply of bile. On the other hand it increases the digestive fluid supply, not only in the stomach itself but in the pancreas, so that digestion is improved and at the same time peristaltic action is stimulated.

DR. J. G. CECIL: I have listened with a great deal of interest to the excellent paper read by Dr. Skinner, and to those who have already spoken. I fully agree that the subject of constipation cannot be too freely discussed, as it is a matter of very considerable importance. If I am a "routinist" in anything it is in giving purgatives, and I very seldom undertake the treatment of a case of any kind without very carefully inquiring into the condition of the bowels and generally find that a purgative is demanded, and usually also find that all medicines as Dr. Larrabee has very properly said, are increased in their efficiency, by having the alimentary canal cleared out before their administration, I have for a long time been very much of the same opinion as the essayist with regard to the administration of water and have often recommended it. I believe that the beneficial effects derived from many of the mineral springs which are visited owing to their advertised efficiency for constipation, depend largely perhaps, upon the water taken because it is water and not so much from the fact that it contains medicinal properties; quite so much also upon the quantity and regularity with which it is taken.

Concerning the point raised by Dr. Larrabee in regard to constipation in infants: This is a matter that has caused me a great deal of trouble in my practice. Very frequently infants nursing or feeding upon the bottle, become obstinately constipated and I have recently been in the habit of advising that the children be given water. I think this is a point that is often overlooked in the treatment of children, the mother or nurse naturally assuming that the infant gets sufficient quantity of water in the milk. I believe constipation in many of them is very agreeably affected and frequently cured by the administration of water.

The case reported by Dr. Skinner is one of extreme interest; the history shows that this woman was nearing a point where surgical interference was urgently demanded. However, at the first visit I made (having seen the patient after she had been constipated several days, and after large quantities of purgative medicines had been given, after she had had injections also and with the history of the case given before I saw her), I was led to suspect a very different condition from what I really found; the patient was in a fairly good condition, not particularly anxious in expression, not restless, not tympanitic, no fever, no tenderness, fairly good pulse, and thoroughly rational; and under the most careful and searching examination, I was unable to locate any tender spot or tumor in the abdominal cavity or any accumulation of fecal matter. The hernia or whatever it was in the inguinal region to my mind had no bearing upon the case. I think if there had been an adhesion or stricture of the bowel at any point, as hinted at by Dr. Smith, we would have had a different line of symptoms from those present. I would hardly have expected to have seen an amelioration of symptoms without perfect relief, and I would have certainly expected to find an accumulation of fecal matter above this constriction, which we could not locate. I do not think I remember to have ever seen a case that resisted such heroic doses of purgative medicines as this woman did. Probably a week after my first visit Dr. Skinner met me on the street and told me that she was still constipated; he had tried injections and flushing the bowels (Dr. Mathews' suggestion), which I am sure was followed out with a thoroughness not often practiced, as Dr. Skinner did the work himself, and had there been simply an ordinary constipation of the lower bowel, I am satisfied this treatment would have solved the problem. But as already indicated, there was no effect. She was benefitted by the amount of water used in these injections, as I understand several were retained. To my mind there is no cause assignable for the obstinate constipation in this case, other than torpidity of the liver and bowels. Possibly there might have been temporary paresis of the small bowel; the constipation I am satisfied was in the small bowel.

DR. T. S. BULLOCK: I only want to

speak of the manner in which the flushing was done in this case: It was done through a rectal tube passed to the sigmoid flexure, a copious amount of fluid being used as already indicated, and if there had been an accumulation of fecal matter in the larger bowel, and I am inclined to think that it would have been very promptly removed by these repeated large amounts of water. Only a very small quantity of hard fecal matter was brought away by the injections.

DR. W. CARROLL CHAPMAN (visiting): I would like to mention one point in this connection, which seems to me to come under the head of functional causes of constipation, especially in women, and that is lack of effort, which is often due, I find, to pain due to congestion and the attending sensitiveness in the genital organs—the ovaries, uterus or vagina. I have often seen women who were not constipated so far as desire goes, but complained that when they wanted to have stools they could not do so, excepting the effort caused them so much pain that they would not make sufficient effort to produce an evacuation. It seems to me where this is the case, and I am satisfied that in women it does occur frequently, we should by hot injections or special applications, as may seem best, endeavor to relieve this condition which would doubtless relieve or possibly entirely cure the constipation.

DR. J. A. LARRABEE: The element of colic has been alluded to, which was entirely overlooked by me in my former remarks concerning Dr. Skinner's case. How are we to determine that it was colic? One feature of one kind of constipation that ought to be alluded to is that caused not by paralysis but by constriction. For example take a case of lead colic, if you please, a case in which you have a portion of the intestines ligated by a circle of fibrous material with extreme pain. What kind of a purgative would you give there? Certainly any effort to increase the peristaltic action would increase the trouble. Under these circumstances I believe that large doses of opium will produce an action from the bowels, an agent which it is well known will produce constipation. But under these conditions an action is produced upon purely scientific principles, it paralyzes the circular fibres. Whenever I see a case of lead colic and obtain that

history, (I usually find that the patient has already taken large quantities of purgative medicines without effect) I administer large doses of opium and it has been my experience that relief follows. Instead of paresis we can have an opposite condition of constriction by the circular fibres.

DR. D. T. SMITH: I intended in my former remarks to refer to Dr. Larrabee's statement as to the way in which belladonna affects the bowel. I believe that the doctor claimed that the good effects of this drug were produced by removing inhibition. I have never heard of any teaching that belladonna acts in this way. There are no ganglia situated in the walls of the intestines stimulating their action, as there are in the heart. Belladonna we know, acts doubly upon the heart; acts directly upon the heart muscles, at least, acts by inhibition of the motor centers from its own ganglia.

I believe that the increased peristalsis is due to direct paralysis, not to an inhibitory one, as the doctor claims.

DR. J. A. LARRABEE: All experiments upon the subject of belladonna which have been conducted by vivisection and otherwise, have shown that this above all other drugs places the intestines in peristaltic action. Wherever there is a branch of the inhibitory nerve, belladonna acts, no matter whether by the capillaries, heart, liver or otherwise; wherever inhibition goes, there stimulation goes, and both go to every part of the economy. Every action of the body is controlled by two forces, like driving a horse with two reins; between the two you get a rhythmical action, but when one or the other is crossed, a different result is obtained. Of course the effect of belladonna is through its action on the pneumogastric nerve. The benefit is derived by taking off the power of checking.

DR. C. SKINNER: Concerning the administration of morphine in the case referred to in the paper: We all thought, after it had been given, that we ought not to have left the hypodermic injection there. If I had left the atropia without the morphine, I think it would have been better, as the morphia was undoubtedly the cause of the marked symptoms the second day. I believe it is a great mistake to give a hypodermatic of morphine when you want to make a differential diagnosis in such cases.

As to constipation in infants: Water can be administered in these cases with good results just as with adults. Mothers and nurses all tell you that the baby will not take water. That may be true, but the reason is that they have never been taught to take it. After a little perseverance on the part of nurses the baby will of course take a sufficient amount of water to obtain the desired result.

As to massage: That was not mentioned in the paper, I referred simply to the water treatment.

I agree with Dr. Smith that having a stated time for evacuation of the bowels is an important factor. There is one thing above all others that a physician will observe in the treatment of constipation, and that is the little attention that these people give to periodical movements of the bowels. One reason why it is so common in women is that on account of their false modesty, or, for various reasons, they do not attend to this call of nature as they should. In this way constipation is started and then keeps itself up.

Referring to Dr. Wilson's remarks in regard to his preference for hot water: I use cold water because I think patients will take more of it, and it is easier to take. In this special class of cases where we have young women from fifteen to thirty years of age to deal with, they will not take hot water. In older people probably hot water is more preferable.

Dr. Chapman mentioned one very important thing in reference to constipation in women, that is, pain produced by any effort at stool; for instance a displaced ovary may render defecation very painful, especially if the feces have become hard, the pressure upon the prolapsed ovary will produce such pain that the patient is unable to make the necessary effort at stool. The majority of these cases are usually controlled by divulsion; you can take a case of this character and dilate the sphincter, after a short time relief will usually follow.

Dr. Bullock spoke of the injections in the case reported by me. I know that these injections were very carefully given, and were really irrigations. I used a No. 7 tube its full length. In the first or second injection probably an ounce of fecal matter came away, after this nothing was returned except the injected water; for that reason we believe that the trouble was not in the large intestine, but a torpid small bowel.

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SATURDAY, JULY 22ND, 1893.

EDITORIAL.

THE PREVENTION OF SURGICAL INFECTION.

Most members of the profession can remember when the relation of bacteria to wound infection was a mere hypothesis conceivable from *a priori* considerations but supported by comparatively few crudely made and half studied observations and vulnerable at every point to the keen, critical scrutiny to which every proposition is subjected. When in the unremitting search after truth, scientists put it to the test of practical utility this hypothesis deepened into conviction. Clinicians began to teach the theory of sepsis and the technique of antisepsis, at first tentatively but with increasing confidence until at length with the full assurance that the microscopic objects which they could demonstrate, cultivate, transplant by inoculation and again collect, were the tangible causes of suppuration and septic complications.

In 1886-7 Donald McLean, then of the University of Michigan, was almost the only operator who dared perform coeliotomies in the public clinic. Two years later, Dr. Goodell tried the

same experiment in the Hospital of the University of Pennsylvania and considered himself justified by the results. The standard antiseptic dressing in most Philadelphia clinics at that time consisted of layer after layer of wet bichloride gauze, while the light, dry dressing was condemned on the ground that it did not adhere to the skin tightly enough to prevent the insinuation of germs beneath it. The fact was entirely overlooked that the most favorable results were achieved with the dry dressings and that the heavy, wet bichloride pack, like a poultice, softened the underlying tissues and provided one of the three requisites for septic fermentation—moisture.

It is unnecessary to allude to the inevitable "modification" by the ubiquitous parasite of genius who bores for notoriety, or to the succession of chemicals that have been in vogue for longer or shorter periods. Antisepsis, in lessening the death rate, in eliminating septic complications, in extending the field

of operative surgery and, above all, in impressively teaching the truth of its fundamental principle, asepsis, has achieved a notable triumph over all older methods.

It is perhaps remarkable that in general surgery there is no great difference in the success of those surgeons who rely upon boiling water, baked cotton, soap and the scrubbing brush—in a word cleanliness, and the success of those who have faithfully used bichloride of mercury, potassium permanganate, carbolic acid, hydronaphthol, or creolin, zinc or iodoform. Even the careless ones who occasionally let their sutures drag across the table, or who adjust eyeglasses without again cleansing their hands, have obtained results not much inferior to those of the most scrupulous followers of modified Listerism. After all, it must be remembered that antiseptis, or asepsis, is not a ritual but a means to an end, and perhaps the very men whom to-day we call careless, deserve the name no more than do those who have taught us that air—even the air of a crowded amphitheatre—may be admitted about a wound with impunity, and that the continuous antiseptic spray is not only useless but dangerous.

One after another have the idols of antiseptic surgery tottered beneath the blows of bacteriology. Bacteria have lived in dry iodoform; carbolic acid to be rapidly efficient in killing or paralyzing germs must be intolerably strong, and, *vice versa*, if tolerable, its solutions are practically useless save for extremely slow disinfection; we have seen mould grow on leather over which a hydro-naphthol solution had been spilled, and even corrosive sublimate solutions are now alleged to be resisted by bacteria rolled up in silk or catgut threads. In fact, boiling water and the actual flame are almost the only germicidal agents in which we may believe.

Why then has the antiseptic surgery of the past few years, based, as we are now informed, on exaggerated ideas of the ef-

ficacy of chemicals, and too often practiced inconsistently or negligently, yielded such magnificent results? Why is it that methods so utterly different in detail that the uninitiated would not dream of tracing them back to a common belief in the malevolent action of vegetable germs, have been in accord in leading to the prompt healing of wounds without suppuration? We can scarcely hold that sincerity of purpose would bring the same result from such varied modes of practice and must look for a common-place explanation. It would seem that the tests applied to antiseptic reagents by bacteriologists have been too rigorous. The bacteria experimented with have, for the most part, been taken from pure cultures, and have been abnormally abundant and virulent. The conservative element of phagocytosis has been lacking, and in many instances spore-bearing bacilli of exceptional resisting powers, and, fortunately, of considerable rarity, have been selected. It must be born in mind that bacteria are but peculiar kinds of weeds, a few hundred or thousand of which may do little harm and may even be choked out of existence by the phagocytes. Moreover, the ordinary septic germs are not very hardy plants and they are quite easily killed or at least reduced to insignificance by the chemicals which fail in the case of such vigorous exotics as the anthrax bacillus.

In general surgery the issue between asepsis and antiseptis is mostly a question of the surgeon and his surroundings. The man who has the habit of cleanliness—who keeps clean his own person, his instruments, his assistants, his nurses as well as his patients and surroundings—who has the time and patience to acquire cleanliness and who can control surroundings to an extent sufficient to maintain it, (nothing is more difficult than to be clean surgically speaking), such a one may well advocate the practice of asepsis to the ex-

clusion of chemical substitutes. But the every day practitioner who cannot control his surroundings, who is unable to avoid contact with contamination, who may be frequently and unexpectedly exposed to contagion and to the ordinary saprogenic and hypogenic germs, who must accept required assistance of the most unsatisfactory character, who has to combat dirt and

ignorant relatives even more than disease, whose facilities and equipments are meagre and imperfect and who cannot maintain even if he can acquire cleanliness—it is well for such a one to reinforce his imperfect efforts at asepsis by any or all chemical agents he can bring to his aid. Asepsis is the ideal condition, antisepsis a means for attaining it.

TRANSLATIONS.

THE PYELITIS OF PREGNANCY.†

Ninay (*Le. Bull. Méd.* June 7, 1893) remarks that inflammation of the ureter and renal pelvis in the course of gestation has but slightly attracted the attention of physicians and obstetricians, either because it is an affection very rarely observed or rather because the signs and symptoms which accompany it have been unrecognized and reported as cystitis. The onset of the complication is variable. At times it produces much disturbance in the form of grave general symptoms with chills, vomiting, acute pains; again the progress is most insidious and tedious, the phenomena less accentuated, the pyelitis is added to an already existing nephritis and manifests itself under the title of this simple complication. Two patients are reported, as follows: the first a young woman of twenty-six, primipara at the eighth month of pregnancy. She was exposed to a cold spell of weather and at the same time became much fatigued by walking a long distance. In the evening she experienced a violent chill, followed by three others during the night. Her temperature rose to 40° C.; there was no vomiting, diarrhoea, nor cephalalgia, urine was scanty, there was but slight painful micturition, and the urine contained an abundance of pus, was acid, but there were no casts or blood corpuscles. At the same time there appeared an acute pain in the right flank and corresponding renal region. Pressure increased this pain, which prevented the

patient from moving, so that she could scarcely turn herself in bed. Three days later after an instrumental labor she was delivered of a living child. Fever and pain persisted for several days, the urine remained purulent for a still longer period and convalescence was prolonged. The second patient presented a history and clinical course almost identical with this.

The principal symptoms of this condition of acute inflammation of the pelvis of the kidney are lateral abdominal pain over the renal region, radiating down the ureter and extending to the bladder, but slight trouble with micturition, indifference to pressure over the bladder, the capacity of which always remains considerable, the fever and general symptoms in proportion to the infection, and finally the presence in the urine of innumerable pus corpuscles. The predisposing causes are the congestive state, traumatism, and retention; the determining cause is microbic infection. The congestive state is not an additional circumstance; it is common to pregnancy and the puerperium. Retention is especially frequent during pregnancy, whilst contusions of the ureter are the exclusive consequences of the operations and traumatisms that accompany parturition. From the point of view of the predisposing causes there is a certain difference between the pyelitis that precedes delivery and that which follows. During pregnancy we observe to intervene the retention and urinary stasis that are determined by compression of the ureter in its pelvic course. This compression

† Translated for THE MEDICAL AND SURGICAL REFORMER, by W. A. N. Dorland, M. D.

only exists on the right side. It is the rule in this form of pyelitis, and if purulent pyelitis of the left side exists it is extremely rare and always consecutive to parturition. Its origin, moreover, is distinct; it is an extension from an already infected bladder. The infection which propagates itself by rising from the bladder affects indifferently either of the ureters.

Compression of the ureter was noticed in 1870, by Halbersma who regarded it as a favorable condition for the development puerperal eclampsia. But, long before him, Cruveilhier had drawn attention to the fact that increase of the lower uterine segment produced a compression of this canal, as observed upon the cadavers of pregnant women dead before delivery. The anatomical reason of this peculiarity is without doubt the usual inclination of the uterus to the right side, and as the iliac artery juts out more markedly on this side it becomes easy for the ureter to be compressed between this vessel and the presenting fetal part. The existence of general symptoms more or less grave, the presence of pus in the urine, show that there is present an infectious disease, because we may legitimately apply to pyelitis the precept that Guyon has indicated for cystitis; *there is no pyelitis without pus.*

The renal retention that results from the compression of the ureter is incapable of itself of provoking a persistent inflammation. The intervention of an infectious agent is necessary. The interesting researches of Reblaub have furnished us with some ideas as to the nature of this agent. He has observed constantly in the urine of patients with pyelitis, the *bacterium coli*. This habitual inhabitant of the intestine is not pathogenic under ordinary circumstances, but it may acquire virulent properties under the influence of course poorly defined, among which may be mentioned chilling, fatigue, errors of diet. If the *colli bacillus* become virulent, fixes itself upon the mucosa of the renal pelvis, it is because this place is modified and its soil has become favorable to the localization.

The progress of pyelitis occurring in the course of pregnancy varies; at times the effect is simple—rest will cure it; at other times the gravity of the general symptoms interrupts the pregnancy, and

parturition puts an end to the symptoms. The diagnosis is, Vinay believes, nearly always easy. The progress is generally not very grave. Miscarriage may result in some cases, and after the emptying of the uterus the symptoms pass away. As regards treatment, in the benign forms, horizontal repose, baths, regimen, and proper hygiene will suffice to cause an amelioration if not a disappearance of the symptoms. Emollient drinks in large quantities, and the use of milk in the form of a mixed diet to the amount of 1½ to 2 liters daily may be added. Absolute milk diet will be necessary if a nephritis complicates the pyelitis. The employment of mineral waters is often of value; the best are the feebly alkaline waters, as the waters of Pougner, Alet, and Vittel. Local vesicants, sinapsms and subcutaneous injections of morphine are serviceable. If there should be sufficient gravity of the symptoms, menacing the life of the patient, labor may be induced.

Abnormal Development of the Teeth, Forming Tumors of the Jaw.*

Dr. O. Hildebrand, of Göttingen, makes a further statement upon the case which he reported in 1889, in which the child of 12 years, who had been submitted to various operations, had been relieved of between 150 and 200 teeth of various sizes.

In July, 1891, patient had again presented itself at the Göttingen Surgical Clinic; both lower jaws were much thickened, as also the right upper jaw. On the whole there were found 17 teeth, part of them normally developed, others in an undeveloped condition; their position was deviated and irregular.

From the upper and lower jaw there were again some masses of teeth removed, which had the same confirmation as those formerly described, and presented about 150 teeth; aside from this, there were found two round glassy bodies about the size of two peas, which upon microscopical investigations showed themselves to consist of tooth structure. The construction of teeth in this patient will continue, in all probability, until the soft tissues have all reached their final development, which will include the epithelial structure of the teeth.—*Deutsch Ztschr. f. Chir.*, 35-5-6—93.

*Translated for THE MEDICAL AND SURGICAL REPORTER by Marie B. Werner, M. D.

REMARKS UPON THE TECHNICAL CONSTRUCTION OF THE ANUS
PRETERNATURALIS IN A CASE OF INOPERABLE CARCINOMA
OF THE INTESTINE.

The author's (Helferich) method consists, in the above named classes, in

1-Laparotomy at the typical place of the left Iliac Fossa, the incision being made large enough to find the Aponeurosis of the oblique abdominal externis muscle. This is sufficiently divided to make it possible to form an artificial sphincter.

2-The Flexura Sigmoidea is drawn forward with the finger or with a hemastatic forceps.

3- In order to prevent the hernia of the intestines, the upper portion of the Flexura must be stretched slightly in its attachments, with a rubber drain previously surrounded by an iodoform gauze.

4-Consists of a secondary opening of the intestinal loop, three to six days after the first operation, no narcosis; a spindle form piece is cut out of the loop.

The results obtained by the author

have been on the whole very good, there having been a general increase of the patients' health after the operation.

In gastrotomy Helferich makes use of the rectus abdominis, which he splits parallel to the muscle fibre, in order to form the sphincter. The opening through perinaeum muscles and skin is when united to the walls of the stomach which has been drawn forward; it is united by catgut, and apex is fixed with silk sutures. The stomach is then opened, a relatively thick walled rubber drain is inserted and fixed into the wound of the stomach. Drains are tied with silk transversely over the abdominal wound.

The three cases operated upon were conspicuous by the prompt success of the operation, and above all, since then alimentionation is continued without any difficulties.—*Deutsche Med. Wochen 1893.*

ABSTRACTS.

PAINFUL MICTURITION IN WOMEN.

In an admirable lecture upon this subject, Herman (*Provincial Medical Journal*, vol. xii., No. 138) states that about one-half the patients who consult a specialist for diseases of women complain of pain in passing water; but it is only the diseases which cause severe pain which require special treatment, so far as the urethra and bladder are concerned. All these cases of severe pain depend upon local diseases, which can only be discovered by direct examination. There are three places in which disease may exist occasioning this suffering,—namely, the *meatus urinarius*, the urethra, and the bladder. Pain in the *meatus urinarius* may be caused by *urethral caruncle*, by chronic congestion or suppurating cyst of the urethra, by abscess of the urethro-vaginal septum, or by a tender, congested condition of the urethral mucous membrane. Chronic congestion of the urethra is chiefly seen in pregnant

women; the urethra is swollen and tender and feels like a thick cord. Not only the act of micturition, but sexual intercourse may occasion almost unbearable suffering.

The treatment for this condition is complete rest, cold sponging on the part, cold hip-baths, the use of vaginal astringent injections, one or two leeches applied by a glass leech-tube to the swollen and tender urethra, and gentle laxatives.

Chronic abscess of the urethra-vaginal septum is rare, and is characterized by a tense, hard, convex, bullous, very tender swelling between the urethra and vagina.

The treatment is evacuation. If there is a spot on the vaginal aspect of the swelling which is thin, and fluctuation is felt, the proper course would be to cut into this thin part. If there is no such spot the urethra should be dilated under an anæsthetic until the canal will admit the finger, and the purulent collection can be evacuated through the urethra.

Suppurating cysts of the urethra form a pouch communicating with this mucous canal by a narrow, somewhat valvular, opening; urine gets into the pouch, decomposes, and inflames the sac. On examination, a round, tender swelling is found in the urethro-vaginal septum, varying in size from that of a pea to that of a hen's egg. By pressure there will be voided either urine or urine and pus, sebaceous matter, or a calcareous deposit, depending upon the nature of the cyst. These cysts do not run the course of an abscess, which gradually close up once an opening has been made for the escape of pus, but they continue indefinitely in the same state, alternately filling with pus and urine, and being partially emptied by pressure.

The treatment is excision of the whole or greater part of the cyst-wall. This is best accomplished by first laying open the cyst freely from the vagina. What is next to be done depends upon the skill of the operator. The cyst-wall should be dissected out and the raw surfaces brought in contact by means of either cat-gut or shotted sutures. If a portion of the cyst near the opening is left and the rest is closed, the object of the operation will nevertheless probably be obtained, for if the pouch is obliterated there will be no place in which the urine can be retained and decomposed, and therefore no inflammation. If the operator mistrusts his manipulative skill, it may be enough simply to open the cyst freely from the vagina, and then, by keeping the vaginal opening from closing by packing with lint or gauze, retention of fluid in the cyst will be prevented, the urethral opening may close, and then the cyst will be left with an opening only into the vagina. If no more urine gets into the cyst-cavity, inflammation will subside and no further symptoms will be exhibited.

If there be much inflammation of the cyst, of the urethra, or of the bladder, it may be well to make no attempt at closing the opening until such inflammation has been subdued by appropriate treatment. If the cyst is suppurative, or not open, or the urethral opening of an inflamed diverticulum has become closed, the condition cannot be distinguished from an abscess. When the pus-cavity has been opened, its cystic character will be inferred from its definite smooth fibrous wall. An

abscess has not a thick fibrous wall. The inside of a diverticulum may be trabeculated, so that the origin of the pus-cavity cannot always be surely made out from the feel of the interior. If the cavity be an abscess, it will quickly fill up; if it does not quickly become obliterated, it should be treated as a cyst. In some cases the patient will complain of severe burning, cutting pain at each act of micturition, but the meatus will be found to be healthy, nor on palpation through the vagina can any area of inflammation be felt. On urethroscopic examination of the mucous membrane it will be found a vivid red or deep purple, appearing in patches or involving the whole mucous surface. Passage of the catheter is extremely painful.

The treatment is to apply some alternative to the diseased mucous membrane; the best, in the author's opinion, is iodoform. The application is most conveniently made by putting into the urethra a bougie made of iodoform and cacao butter. A little wool put between the labia will prevent the bougie from slipping out. In recent cases the use of three or four bougies will cure the patient. In cases of very long standing more prolonged treatment will be required. Nitrate of silver is also serviceable in this condition. In some cases application of nitric acid to the tender part is followed by relief. Dilatation of the urethra is also to be recommended. In some cases both the meatus and urethra are healthy, but on passing a bougie great pain is experienced as it enters the bladder. In these cases a urethroscopic examination will show either hyperæmia or fissure of the vesical neck, the symptoms of extreme pain on micturition persisting afterwards; also great frequency, and difficulty in emptying the bladder. Sometimes a little blood escapes with the urine. The urine is clear, and there is tenderness about the vesical neck. Direct examination shows the fissure as a small grayish ulceration, with red, inflamed edges at the vesical neck.

The treatment consist in dilatation of the urethra under anæsthesia; this is best accomplished by means of Hegar's dilators until the urethra admits the finger. Temporary benefit always follows this procedure, and sometimes permanent cure. The objects to this treatment are that there is danger of septic infection of

the bladder and of permanent loss of control over the sphincter. Inconvenience rarely results unless dilatation is carried beyond the point necessary to admit the finger. In case dilatation is unsuccessful in relieving symptoms, vaginal cystotomy is indicated. To preform this operation a director should be introduced into the urethra and held exactly in the middle line. Open the bladder from the vagina by cutting upon the director. If the incision is exactly median, no important part can be wounded. To prevent this opening from closing, Greenhalgh's India-rubber stem may be employed, or the vesical mucous membrane may be sewed to the vagina on each side by a catgut stitch. All pain ceases at once, and if the artificial fistula is kept open long enough, the ulcer heals, and then the fistula can be closed and the patient remains well.

To minimize the discomfort of the artificial incontinence resulting from this

operation, the patient should be kept upon a fracture-bed. The rest in bed is of itself beneficial. If nothing is done to prevent the healing of such an incision of the bladder, it soon either heals or contracts to a canal only large enough to admit a probe. As to how long this fistula should be kept open no rule can be given. If as the fistula heals symptoms return, the artificial opening should be again enlarged.

Baker's method of treating these cases is to keep the patients in bed for only a few days, then to fit them with a urinal, and allow them to get up and enjoy fresh air and exercise. The fistula is kept open for months, and is not closed until the interior of the bladder has ceased to be tender and, in case of cystitis, until all trace of pus or blood has disappeared from the urine. This, however, sacrifices the advantages of rest, and it has the discomfort of constant soiling of the clothing.—*Therapeutic Gaz.*

THE CAUSE WHICH DETERMINES SEX.

In speaking on this subject before the Capital District Medical Society, the author states that he approaches it with an unaffected timidity and diffidence to open it for discussion.

I am thoroughly aware of the difficulties surrounding the matter, and more especially since all that may be, or can be, said will be largely of a speculative character.

There is one curious feature connected with the subject: it is also an incontrovertible fact, which has its weight in the consideration of this subject. I refer to the fact that—no matter what the cause, whether from battle or otherwise—when ever there is a large depletion of the male population, nature brings about an equilibrium by bringing a majority of males into the world. It matters not by what name you denominate the causes tending to this fact, one will necessarily conclude that it is divine,—a reason being, that a great preponderance of females and a scarcity of males would lead to social disaster and ruin. This is not exactly predestination, but a physiological process left partly to "chance;" but now, I hope, under the control of man.

The best state of society is found where the sexes assume about equal numbers. The apparently most natural and at the same time easy deduction is, that the sex is regulated by direct divine intervention. Granting this, the subject would be at rest: there remains nothing more to be said.

I have given the subject close attention, careful consideration, and diligent study; and, without arrogance, I think I have discovered the true theory.

That a great boon would result to humanity were this the case, there can be no doubt. Hereditary habits could be corrected, etc.; for the reason that female children are less likely to become victims of the various hereditary habits than male children. Along with this, however, would come the danger of an unequal proportion of the sexes.

There are, as far as I know, *four theories*, exclusive of divine interference, that have been advanced, none of which seem to be satisfactory.

1.—If conception takes place in the dark of the moon, the child will be a boy; if in the light of the moon, it will be a girl. This is too absurd for consideration.

2. All the eggs in one ovary are male eggs, and all in the other are female eggs. This cannot be accepted, as women have frequently given birth to both male and female children after one ovary had been extirpated.

3. If conception takes place before menstruation, the child will be a male, if after menstruation, a female. This is contradicted by the fact that male as well as female children have been born to women who were separated from their husbands either before or after menstruation.

4. If at the time of conception the sexual desire and passion is greater in the father, the child will be a female; and *vice versa*. This will not hold good, as many women who have never felt any satisfaction in sexual congress have given birth to both male and female children.

Let us now direct our attention to what I consider the true theory. In the stroma, or body of ovaries, are found 7,000 to 30,000 ova or eggs, which ripen and mature, from one to six at a time, about once a month: one-half of these are male eggs, and will develop into male children; one-half female eggs, which will develop into female children. Ripening takes place alternately; first a male egg, next a female egg, etc.

That sounds very well, but the critic asks: Can you prove it? I think the following authentic and carefully-selected statistics, collected during the last three years, will establish the fact almost beyond controversy. I find one case where a young girl became pregnant at the first menstruation; the child was a male; two that became pregnant at the fourth menstruation, each bearing a female child; one that became pregnant at the 5th menstruation, the result a male child; 7 that became pregnant at the 10th menstruation, all bearing female children; 12 becoming pregnant at the 25th menstruation, all the children being males; one becoming pregnant at the 54th menstruation, a girl being the result. In case of twins, two eggs have ripened at a time if the children are of different sexes; if of the same sex, three eggs have ripened,—one failing to become impregnated. I have found three *corpora lutea* in a patient who had died of puerperal eclampsia after giving birth to two male children.

If a woman becomes pregnant at the next menstruation *after* giving birth to a male child, the offspring will be a female, and vice versa. I found six women who became pregnant at next menstruation after giving birth to a male child, and the result was a female offspring; one case where a woman became pregnant at 2d menstruation after, and the child was a male, 10 cases at 5th, and 8 cases at 6th, with the expected result. (*)

But what about a *hermaphrodite*? In my opinion, there is no such condition; it must be either one sex or the other. The supposed penis is either an enlarged clitoris or a malformation.

—*Amer. Med.-Surg. Bulletin.*

The Use of Thiol in the Treatment of Burns.

Bidder (*Archiv für klinische Chirurgie*, Band xliii, 1892) says that in treating burns a dressing should be selected that does not require frequent changing.

Thiol may be used in two forms, the fluid and the powder. Its action on the burnt surface is:

- (1) As a drying substance.
- (2) Relieves the pain.
- (3) Hardens the new skin.
- (4) Hinders the growth of all micro-organisms that may have gained entrance to the wounded parts.

Treatment of Comedones.

Dr. H. Von Hebra (*Hospitals-Tidende*, No. 11, 1893) prescribes the two following solutions in the treatment of blackheads:

1. \mathcal{R} Rosewater, }āā gms. 10(3ijss)
 Alcohol, }
 Glycerine, }
 Borax gms. 5 (3¼)

Shaking before using.

2. \mathcal{R} Green soap gms. 40 (3¼)
 Spir. lavender..... gms. 10 (3ijss)
 Alcohol..... gms. 80 (3jss)
 Every morning wash the skin with No. 1, and then rub in No. 2. Then wash off with warm water.

Naso-Pharyngeal Catarrh of Nurslings.

Dr. Neumann (*La Semaine Médicale*, No. 33, 1892) has obtained excellent results in the treatment of naso-pharyngeal catarrh, so severe even as to interfere with nursing, by employment of the following solution:

- $$\mathcal{R} \quad \begin{array}{ll} \text{Sulphate of zinc.....} & \text{gms. 0.10 (grs. jss)} \\ \text{Water.....} & \text{gms. 15 (3iv)} \end{array}$$
- Instill a few drops of this solution into each nostril several times a day.

* The author's theory *fails*, however, to explain the fact—quoted by himself—of the preponderance of male births in a region largely depopulated of males, and vice versa; unless he brings the 4th of the *current* theories, above cited, to his aid: to the effect that *fecundation*, under a scarcity of males, will more readily occur on the male ova, on account of the more intensive orgasm on the woman's part.—[Ed.]

SELECTED FORMULÆ.

Treatment of Hyperidrosis.

Several new formulæ for the treatment of sweating hands and feet have been recently introduced. The following are among the best of them:

The *Monatshefte für Prakt. Dermat.* recommends an alcoholic solution of borac acid, borax, and salicylic acid, as follows:

R	Boric acid.....	3j
	Borax.....	3ss
	Salicylic acid.....	āā 3ij
	Alcohol.....	8vj

Mix and make a solution, with which rub the palms of the hands or soles of the feet thrice daily.

The *Centralblatt für die Gesamte Therapie* recommends the following mixed treatment:

R	Beta naphthol.....	3ij
	Glycerin.....	3ss
	Alcohol.....	8vj

Mix and dissolve. Use as a wash to the parts affected twice daily; dry, and apply the following powder:

R	Beta naphthol.....	gr. xxiv
	Starch.....	5v

M. Pulverize and mix.

—*Ex.*

BROMIDISM may be prevented by combining an intestinal antiseptic with each dose of the bromide salt as follows:

R	Potassii bromidi.....	gr. xxx
	Beta naphthol.....	gr. xx
	Sodii salicylat.....	gr. x

M.

EMBALMING is accomplished by a new process attributed to Dubois, a Frenchman, in which the body is dehydrated by means of amylc alcohol or nitric ether, or a mixture of both injected in the usual way. It is placed in an air-tight chamber and surrounded with calcium chloride and its entire surface is eventually coated with a solution composed of balsam tolu and benzoin in equal parts in ten times their weight of ether. According to the *Br. and Col. Dr.*, the body is said to retain its natural appearance.

Brown Leather Polish.

R	Annatto.....	¼ ounce
	Catechu.....	1 ounce
	Gamboge.....	¼ ounce
	Gum acacia.....	½ ounce
	Hydrochloric acid.....	1 fluidounce
	Water.....	2 pints

—*Bulletin of Pharmacy.*

PROF. HARE gives the following prescription as useful in the sub-acute stages of bronchitis:

R	Vini ipecac.....	f3j
	Tinct scillæ.....	f3ij
	Syrup toluatan.....	f3v
	Aque destillat.....	f3j

M. Sig.—Teaspoonful every three hours.

Eczema of the Vulva.

Lusch employs the following:

R	Tincturæ opii	}	āā gms.	8
	Sodii bicarbonatis			
	Potassi bicarbonatis.....		gms.	4
	Glycerini		gms.	6
	Aque destil		gms.	206

PROF. GRAHAM is of the opinion that the prognosis of hereditary syphilis in children will depend to a great extent on the length of time that elapses between the birth and the appearance of the eruption. The sooner the eruption appears after birth, the better will the prognosis be.

Tape worm.

R	Pelleturin sulph	gr. vii-ss.
	Pulv. acid tannic.....	gr. vii-ss.
	Syr. simpl	3ij

M. Sig.—Take the above the following morning before breakfast. Fifteen minutes after take two tablespoonfuls of castor oil.

—*Labbe, Ex.*

Acne.

Dr. G. T. Elliot prescribes:

R	Zinc sulph	}āā	grs. v-xxx
	Potass. sulphuret.			
	Aquæ rosæ	3j	
	Sulphuris præcip		grs. xx-xl

M. Sig.—Apply to face three times a day.

PROF. KEEN gives the following formula for Morton's fluid; useful where absorption is required:

R	Iodinii	gr. x
	Potassii iodidi	gr. xxx
	Glycerini	f3j

M. Sig.—Use locally.

Liquid Spice Plaster.

Med. Bulletin.

Capicum,
Cloves,
Cinnamon,
Ginger, of each, 4 drs

Exhaust with stronger alcohol, evaporate to 4 ozs. and add to a solution of

Rosin

Venice turpentine

Alcohol (95 per cent.).....

Spread with a camel's hair brush on paper covered with muslin, and apply in lumbago, muscular rheumatism pain in chest, etc., over place of pain.

A Deodorizer for Iodoform.

The following (*Norsk Magazin für Lægevidenskaben*, No. 3, 1898) is recommended:

R	Iodoform	gms. 187 (3vj)
	Carbolic acid.....	gms. 1 (gtts. xv)
	Oil of peppermint....	gms. 2 (gtts. xxx)

CURRENT LITERATURE REVIEWED.

THE AMERICAN JOURNAL OF OBSTETRICS for July. Dr. J. Whitridge Williams contributes an article on

Calcified Tumors of the Ovary.

He reports two cases of the disease and one case of calcified corpus luteum. He also says that, in several instances, the tumors sent him for examination as osteoma of the ovary proved to be simply calcified fibromata and in one instance, what was supposed to be a nodule of true bone was found to be a calcified corpus luteum. He further says that while true osseous tumors also occur in the ovary they are even more rare than calcified tumors. Of course, in speaking of calcified tumors of the ovary, all growths which are connected with dermoid tumors are excluded. The process of calcification is always preceded by more or less necrosis of the affected part. All forms of necrosis do not lead to calcification but particularly coagulation necrosis and then only under certain conditions. The general law in regard to the production of calcareous deposits seems to be coagulation necrosis to which some supply of blood or lymph is admitted. The clinical history of calcified tumors of the ovary does not offer any distinguishing features from other solid tumors of the ovary. They rarely attain great size; in one or two cases there was marked dysmenorrhoea; in several cases there was marked uterine hemorrhage, which ceased after the removal of the growths. It is impossible to distinguish the condition under consideration from other hard tumors of the ovary; when the diagnosis has by any possibility been made, the removal of the tumor is indicated.

Dr. Charles M. Green contributes a paper on

Puerperal Eclampsia,

giving the results in the Boston Lying-in-Hospital during the last eight years. As to the treatment of ante-partum eclampsia: Ether was used to control the convulsion and he believes that it is as safe as chloroform for that purpose. Chloral hydrate by the rectum was used as a sedative between the attacks. Morphia is not approved of, as in some cases it seemed to cause restlessness. The action of the skin is excited by means of the hot bath, hot air bath, etc., and for drugs, pilocarpin in gr. $\frac{1}{2}$ doses, guarded by stimulants. If the skin does not act readily, the bowels are moved by croton oil or elaterium. Cream of tartar water and digitalis are used as diuretics. Venesection has not been resorted to. When it becomes necessary to deliver the patient rapidly, manual dilatation of the cervix is preferred to dilators or hydrostatic bags. Podalic version and manual extraction are preferred to forceps, unless the head is engaged. When the attack occurs during labor, it is the practice to deliver as speedily as possible. After delivery, chief reliance is placed on chloral, pilocarpin, hot

bathing or the hot air bath, mild diuretics, and necessary stimulation. Post-partum eclampsia is treated, in general, in the same manner as in inter-partum cases after the labor has been completed. If symptoms of threatening convulsions appear during delivery, the labor is not hastened, if progressing normally, and treatment is directed toward allaying nervous symptoms and mildly stimulating the function of the kidney. The paper includes tables showing the number of cases treated and the results.

Dr. Reuben Peterson discusses the subject of

Tubal and Peritoneal Tuberculosis,

reporting four cases. He comes to the following conclusions:

1. Tubal tuberculosis, either alone or with coexisting involvement of the peritoneum, is far more frequent in occurrence than is commonly supposed.
2. Early operative interference is indicated in the presence of either tubal or peritoneal tuberculosis, as a safeguard against the further extension of the disease.
3. All cases of tubal or peritoneal tuberculosis subjected to a laparotomy should be drained, and whenever practicable, the iodoform gauze drain should be employed.

Dr. George M. Edebohl contributes a paper on

The Operative Treatment of Complete Prolapsus Uteri et Vaginae.

The author states that, until such time as it can be shown that the results achieved by total extirpation of the uterus for prolapsus are better and more lasting, as well as that the operation is no more dangerous than the rival procedure, he will adhere to ventrofixation of the uterus combined with the necessary plastic operations as the rule, practicing total extirpation only on exceptional indications, as:

1. A uterus so large and heavy as that it cannot be reduced to an approximately normal size and weight by amputation of the cervix.
2. A uterus presenting either positive evidence or strong suspicion of malignant disease.
3. A uterus with appendages so diseased that the condition of ovaries and tubes calls for their removal, apart from other considerations.

The author would also lay it down as an axiom that whenever the uterus is preserved in prolapsus operations it should be securely ventrofixed. The paper also includes a table of the twelve cases operated on by the author.

Dr. A. F. A. King reports a case of

Labor Obstructed by Ovarian Tumor.

In regard to treatment in these cases: The author is of the opinion that when the tumor is large and below the pelvic brim, and cannot be pushed back to make room for the child, the only modes of proceeding available

would seem to be: [1] abdominal section of the mother, [2] mutilation of the child, or [3] puncture of the tumor. Playfair's tables give the best results from puncture of the cyst. In cases where the tumor is smaller and capable of being pushed up out of the way of the child, it becomes an interesting question whether such a method of treatment, with its well known risks, would be better than emptying the tumor by puncture.

Dr. S. C. Gordon discusses the

Dangers and Complications of Uterine Fibroids.

The conclusions arrived at are:

1. Uterine fibroids are always more or less troublesome, and in a majority of cases produce a state of chronic invalidism.
2. In a large percentage of cases they are complicated with excessive hemorrhages, peritonitis, salpingitis, and ovaritis, with purulent collections and adhesions, producing continual suffering.
3. Many of them do not cease growing at the menopause, but increase.
4. Many undergo degeneration, either calcareous, cystic, or malignant.
5. Hysterectomy is not a very dangerous operation if made in the early history of the case—no more so than ovariectomy.
6. In addition to the saving of life, it relieves (in nearly all the cases) the woman from the life of invalidism.

Dr. Charles P. Noble contributes a paper on "The Question of Operation in Cases of Chronic Ovaritis." The conclusion arrived at is that operation should be performed if continued well-directed treatment does not benefit the patient. Particularly is this the case with those women who are dependent on their own labor for support. The author also urges that all ovaries removed because of chronic ovaritis, should be submitted to a competent pathologist for careful study, that new light may be thrown upon these conditions.

Dr. H. Marion Sims contributes a paper on "Hystero-epilepsy," reporting seven cases cured of the disease by surgical measures.

Dr. Frank A. Stahl, in a paper on "Digital Curetting of the Puerperal Uterus," shows very clearly the great advantage of the finger over any form of instrument in these conditions.

The other papers in the current issue are: "Vaginal Enterocoele in Pregnancy and Labor," by Dr. Barton C. Hirst; "The Abdominal Brain in Gynecology: Its Reflex and Rhythm," by Dr. F. Byron Robinson, in which the author shows the part which the sympathetic system plays in abdominal diseases. The remaining paper is by Dr. Thad. A. Reamy on "Membranous Dysmenorrhoea."

THE VIRGINIA MEDICAL MONTHLY for July.

Dr. J. R. Buist contributes a paper on

The Management of Retroflexio Uteri,

in which he has come to the following conclusions:

1. We believe that in the large majority of cases, the predominant morbid state allowing

of retroflexion is to be found in the uterus itself; a diseased state of this organ is the primum mobile of the trouble.

2. Next, an extension of the metritic disease to the tubes, ovaries, and peritoneum is the most usual sequence of changes, and the relaxation of ligamentous supports the last.

3. The skilled gynecologist will treat the complications first, resort to pessaries last, and when opportunity offers, or the symptoms severe enough, select some one of the surgical methods of fixation.

Dr. E. M. Magruder in a paper on

Aneurism of the Vertebral Artery—Its Successful Treatment,

gives the following:

1. Vertebral aneurism is very rare, and its treatment has been exceedingly unsuccessful.

2. The causes of the lack of success are (1) inaccessible situation and (2) errors in diagnosis.

3. Of the twenty-eight cases (the author's the twenty-eighth) mentioned in the paper, three were cured and twenty-five perished.

4. Of the three cases cured, one was treated by cold and direct pressure, one by enlarging the original wound and using a styptic and bandage, and one (the author's) by a combination of incision, evacuation, packing and compression.

5. Vertebral aneurism can be safely laid open and treated, the only danger being immediate hemorrhage. The requisites for success are quickness and perfect asepsis.

6. Treatment by incision, evacuation, packing, and compression is the safest, easiest and surest method yet devised for vertebral aneurism, and is bound to succeed.

Dr. Mathew M. Smith in a paper on

Hypnotism,

advises that the use of this agent be limited to graduates in medicine. Even then it should be confined to its legitimate uses in the treatment of disease. As to the conditions that are cured or benefitted by hypnotism, the author believes that all pains that have no anatomical lesion, as headaches, ovarian, rheumatic and neuralgic pains, sleeplessness and hysterical conditions, and many disturbances of menstruation, alcohol, opium, and tobacco habits may be cured by its use. Neurasthenia, stammering, and nervous disorders of sight are benefitted by it. It may be used in minor surgery and labor to diminish pain. In treatment, many sittings may be necessary in order to get the beneficial results desired. Some physicians will have much better success than others with its use, just as some surgeons have a more skillful use of the knife than others.

Dr. W. R. Pryor contributes a paper on the "Treatment of Sterility." The author believes that, in the majority of cases, the endometrium is at fault and advises the dilatation of the cervix followed by a thorough curetting of the entire endometrium and packing with iodoform gauze. The author reports several cases in which the above treatment was followed by conception in a short time.

Dr. John S. Hughson advocates, in a paper on "The Treatment of Puerperal Convul-

sions," the use of large hypodermics of morphia to control the convulsion.

Dr. R. A. Patterson contributes a paper on "The Treatment of Diphtheria." The author advocates the use of a mixture of potassium chlorate, dilute muriatic acid, tincture of the chloride of iron and water, internally, followed by the application to the throat of a mixture containing one ounce of fluid extract of pinus canadensis and ten to fifteen drops of phenic acid.

Dr. John N. D. Cloud in a paper on "Malarial Hæmaturia," cautions against the use of quinine until the hemorrhage has subsided and the skin has regained its natural color.

Under "Clinical Reports," Dr. A. B. Pierce reports a case of ovarian tumor which has been tapped nineteen times.

Dr. John Dunn reports a "Case of Complete Bony occlusion of One Side of the Nose."

Other papers in this issue are: "Purulent Puerperal Peritonitis," by Dr. Virginus W. Harrison; "Reform Needed as to Medical Expert Testimony," by Dr. William B. St. John; "A Few Facts in the History of Abdominal Surgery," by Dr. Anne Walter; "Organic Syphilis," by Dr. Henry Robbins; and "What the General Practitioner Should Know About Diseases of the Eye" by Dr. Frank Trester Smith.

PERISCOPE.

MEDICINE.

Terpene Hydrate in Bronchial Catarrh.

Dr. Wm. Murrell (*Med. Age*) says:

I am desirous once more of calling attention to the value of terpene hydrate in the treatment of affections of the bronchial and nasal mucous membranes. Its properties have been well known for many years, but in this country it has never been a popular remedy, and its claims seem to have been overlooked in favor of pure terebene and other similar compounds. It is a hydrate of turpentine, and is made by treating oil of turpentine with nitric acid and alcohol. It is a solid, and has somewhat the appearance of chloral hydrate. Its odor, which is slight, resembles that of pure terebene. The great difficulty in the way of its administration is that it is practically insoluble in water. It is usually said to dissolve in alcohol in the proportion of 1 in 10, but many specimens are far less soluble. On the Continent, where it enjoys a high reputation in the treatment of bronchial affections, it is used as a popular remedy in the form of an elixir. For some months past I have prescribed it in a solution containing five grains to the half-ounce, made up with simple elixir and flavored either with tincture of Virginia prune and syrup of tar or with aqua lauro-cerasi. For patients who cannot take sugar the elixir may be made with saccharine. Terpene not only relieves cough and lessens bronchial secretion, but is a diuretic, and has been used with advantage in neuralgia.

Ichthyol in the Treatment of Erysipelas.

Glinzky states that during the last four years he has tried ichthyol with great success in one hundred and twenty-eight cases of erysipelas. He concludes that this drug is decidedly the best means of all yet proposed for the treatment of this disease. It rapidly arrests the spread of the morbid process and reduces the average duration of the disease down to two or three days. The

method is of the greatest value in all cases in which cardiac weakness, due to fatty degeneration of the heart, is present in patients with nephritis.—*Zemsky Wratsch*, 1892, Nos. 39 and 40.

Chloride of Iron in Diphtheria.

Drs. Hubner and Rosenthal (*Munich Med. Woch.*) in two separate communications speak enthusiastically of the results of treating diphtheria by means of the chloride of iron. Hubner applied it locally in a 1.1 or 1.5 solution by means of a swab or brush, two or three times a day; Rosenthal, internally, in a 20 per cent. solution with glycerine as a corrigens, a teaspoonful to a tablespoonful every hour. The results with both were astonishingly good.

The Condition of the Spinal Ganglia in Tabes Dorsalis.

R. Wollenberg states that it is still a mooted question whether the seat of the primary changes in tabes dorsalis is in the spinal cord or outside of it. It is true that changes in the peripheral nerves and spinal ganglia have been frequently described, without its being possible, however, to determine their true pathogenic importance. In fourteen cases of tabes, Wollenberg has made examinations with regard to this point, with the following results: In the spinal ganglia, in all the cases examined, not only the nerve-fibres and the interstitial connective tissue, but also the ganglion-cells themselves were found to have undergone pathological changes. The excess of pigment and the shriveled condition of the cells can, of course, not be considered as a sure indication of disease; but this is not the case with the opacity of the protoplasm, which is always present, and with the agglutination of the cells, which may, undoubtedly, be regarded as typical of a pathological process. Although it is thus proven that in tabes the spinal ganglia present pathological changes in all their elementary parts,

yet these changes of the ganglion-cells may be regarded as insignificant in comparison to those occurring in the nerve-fibres and in the interstitial connective tissue.

We cannot, therefore, assume that tabes originates in the spinal ganglia, nor that the latter are the primary seat of the trouble; it is most probable that the changes occurring in the ganglionic cells of the spinal ganglia are only of a secondary nature, and are induced by a perineuritis developing in the region of the spinal-cord process and gradually involving the nerve-elements (first the nerve-fibres, then the ganglionic), cells and inducing atrophy.—*Archiv für Psychiatrie*, vol. xxiv.

Arsenical Neuritis.

Osler (*Montreal Med. Jour.*) relates a case to show that long continuance of full therapeutic doses of arsenic may lead to the development of peripheral neuritis. The patient was a Pole, suffering from Hodgkin's disease, affecting the cervical, axillary, and inguinal glands. During a period of seventy-five days he took ss , ss , m xviii of the liquor potassæ arsenitis, equivalent to sixteen and one-half grains of arsenious acid. The dose, for the greater part of the time, with some intermissions owing to diarrhoea, was m xv three times a day. Increased pigmentation of the skin was noticed at an early period of the treatment, and, after about seven weeks, it was noticed that the muscles of the upper and lower limbs were tender to the touch, and that he walked stiffly. The knee-jerks which were then present had disappeared in another fortnight, and he was scarcely able to walk at all. The muscular power of the arms was diminished. The excitability of the muscles of the legs to both currents was diminished, and A.C.C. was equal to, if not greater than, K.C.C. Osler observes that idiosyncrasy must play a part in the production of arsenical neuritis, which is very rarely produced by therapeutic doses. He had only once before met with a case which raised the suspicion of neuritis, though he has been in the habit of treating pernicious anæmia, Hodgkin's disease, and chorea minor with arsenic, pushing the drug until its physiological effects were produced—itching of the skin, slight œdema, vomiting, or diarrhoea.

SURGERY.

Removal of the Seminal Vesicles.

Since Ullman removed both seminal vesicles for tuberculous disease, by Zuckerkandl's method—which consists in exposing the prostate and base of the bladder, by dividing the anterior attachments of the rectum and then freeing it from the prostate and lower part of the bladder—Roux has reported two cases in which for tuberculous disease he has removed one seminal vesicle together with the spermatic cord and testicle of the same side through a lateral perineal incision,

reaching the vesicle by a dissection carried upward between the prostate and the rectum.

Dr. George W. Gay, of Boston, in May, 1891, removed the right seminal vesicle, through a lateral perineal incision (similar to that practiced by Roux), for cancerous disease thought to be primary in the vesicle. Six months later the wound, which had healed well, reopened; the examination revealed a hard mass, about the size and shape of the forefinger, in the site of the seminal vesicle which had been removed.

Villeneuve reports a case in which he removed one seminal vesicle by exposing the spermatic cord outside the inguinal canal, and by freeing and pulling on the cord until the seminal vesicle was sufficiently brought down to be reached and excised.—*Boston Med. and Surg. Jour.*

Prostatectomy.

The question of the advisability of this operation was lately brought before the profession by Mr. Buckstone Brown, who recommended the operation when a patient had to use a catheter every 2 hours, and life was a burden in consequence. He quoted the case of a gentleman, æt. 72 years, on whom he had operated a year ago for a small stone and finding the prostate much enlarged he had removed two ounces of the gland; the patient can now pass all his water without requiring the use of a catheter. The general feeling of the society was that the supra-pubic method was the best, and that the gland should only be removed when obviously projecting into the bladder cavity. Bleeding is the worst feature of the operation, and can best be prevented by using special small toothed forceps which crush as well as remove the gland. All agreed that there was a considerable risk in the operation.—*Calcutta Med. Rep.*

Pneumonectomy.

It was briefly stated in the *British Med. Journal* of February 25, that Dr. Lowson, of Hull, had operated on a case of tuberculous disease of the lung by removing the right apex, to which the disease was limited. We are glad to learn that the patient bore the operation well, and was able to get up for a short time in the third week; she was then eating well and had no pain. The operation was commenced by the removal of the anterior third of the second and third ribs; the parietal layer of the pleura was opened and the apex of the lung was pulled out after separating a number of extensive adhesions; the diseased apex was then transfixed with a needle and strong silk, firmly tied and removed. The sudden development of pneumothorax gave very little trouble and oxygen, which was at hand, was not needed. The respirations were never more than 44, and dropped in a day or two to 32, and soon after to 24; the pulse showed a similar elevation and decline. The highest temperature was

101.8°; this occurred in the second week and lasted five or six days, with complete morning remissions. The wound was quite healed by the end of the third week. The after history of this patient will be watched with much interest.—*British Med. Journal*.

GYNECOLOGY.

Noble (C. T.) on Certain Problems in Abdominal Surgery; Based on One Hundred Cellotomies.

The paper is an elaboration along the lines indicated in the following extracts:

The essentials of success in abdominal surgery are:

1. Early operation.
2. Careful preparation of the patient, with especial reference to stimulating the emunctories and to securing asepsis of the abdominal wall.
3. An aseptic operating room.
4. Aseptic hands and instruments for the surgeon.
5. As great rapidity in operating as is compatible with careful, thorough work.
6. Irrigation and drainage in septic cases.
7. Careful after-treatment, embracing especially the withholding of fluids for about forty-eight hours, early purgation and at least three weeks' confinement to bed.

Regarding the question of drainage the author says that the better results obtained at present without drainage, as compared with the results of ten years ago, is explained by five facts:

1. Surgeons do cleaner work; they are more aseptic than formerly.
2. They have better means for securing hemostasis.
3. They do not use irritating chemical antiseptic solutions in the peritoneal cavity.
4. They deprive their patients of water for forty-eight hours after operation, thus producing systematic thirst and bringing about the absorption of serum from the peritoneal cavity.
5. They purge early and freely on the first sign of peritoneal irritation.

He believes that the use of a drainage tube may cause hernia, and that it may prove an open door for infection. A carefully compiled table of cases closes this sensible article.—*Am. Jour. Obstet.*

Vaginitis from Bestiality.

The patient (*Weekly Med. Rev.*) was "a smart, pretty, well educated" twenty-six-year-old country girl, who was found to be suffering from a profuse, thick, sticky, greenish yellow vaginal discharge of an extremely offensive odor, completely gluing the parts together. The discharge had been present for about a week, coming on suddenly. After washing the external genitals and opening the labia three rents were discovered, one through the fourchette and two through the left nymphæ. The vagina was

found to be excessively congested and covered with bleeding points on the least irritation. Gonorrhœa was the presumptive diagnosis, but coitus was denied, albeit menstruation was stopped, and the patient was terribly perturbed about pregnancy. Under pressure, she confessed that one day she was playing with the genitals of a large dog. She became excited and thought she would have slight connection with him, but after the dog had made an entrance she was unable to free herself from him, as he clasped her so firmly with his fore legs. The penis soon became so swollen the dog could not free himself, and for more than an hour she made the most persistent efforts to do so, and finally making the ruptures before spoken of, and followed immediately by the discharges and inflammation. She was given the usual treatment for gonorrhœa, enjoining rest and soothing treatment until inflammation had subsided, since which time every kind of injection and treatment, applied both to the vagina and uterus, has failed to cure the discharge, pus cells being still abundant in the discharge; menstruation is normal. There was reason to suspect that the bestiality continued. The case is not unique, as Dr. I. C. Rosse (*Va. Med. Monthly*) reports that a young white single woman was surprised copulating with a large mastiff, whose endeavors to release himself caused fatal vaginal hemorrhage. The bony structures of the dog's penis, and the reversal attempted after completion of the canine sexual act, would be very likely to inflict wounds of the kind described in the first case.—*Medical Standard*.

Gonorrhœal Infection of the Mucous Membrane of the Mouth in New-Borne Infants.

From the study of five cases of gonorrhœal infection of the mouth in the *Königsberg Obstetrical Clinic*, Dr. Rosinsky has drawn the following picture of the disease: Without preceding inflammatory redness, a white discoloration appears upon the anterior two-thirds of the tongue, the tongue, the plaques of Bednar, the hamulus pterygoideus, and along the ligamentum pterygomandibularum in the lower jaw, finally upon the front parts of the gums. After twenty-four to thirty-six hours the color becomes yellow. The patches elevate themselves plateau-like over the surrounding tissues, and their surfaces are raw. The superficial epithelium forms with extravasated pus cells, a thick layer, resembling the scrapings from the cut surface of a septic spleen. On the third day the regeneration of the epithelium begins; this is marked by an inflammatory redness around the edge of the patch. Healing follows without treatment, in an ideal manner, no trace of scar or discoloration remaining. From the microscopical examination of some excised tissue, Rosinsky has gleaned the following: The gonococci were never found, in stained sections, intra-cellular. They were seldom found intra-cellular in the superficial flakes.

Gonococci cannot penetrate into the body of healthy, living cells; they accomplish this only when the single cells are cut off from the conditions of life. In the connective tissue gonococci invasion was found. Rosinsky believes this to be typical pure gonorrhoeal inflammation of the mucous membrane. The relatively infrequent gonorrhoeal inflammation of the mucous membrane of the mouth in adults, in contradistinction to infants, he believes to be due to the tenderness of the epithelium of the mouth in the new-born.—*Annals of Gynecology*.

A STUDY of the effects of removing the ovaries shows that for some time there are menstrual molimina and the ordinary signs of the climacteric appear. The deposit of fat in the abdominal walls, buttocks and other parts of the body is attributed not to excess of nutrition but to vaso-motor changes. When the uterus is removed and the ovaries left behind the latter do not atrophy, as has been claimed, but subsequent autopsies have shown them unchanged in size and containing Graafian follicles ripening or breaking.—*Northwestern Lancet*.

Supra-pubic Lithotomy.

Lawson tait thus describes the *technique* of this operation: "I make use of no precautionary measures or preparatory steps. I neither pack the rectum nor distend the bladder. I stand on the left of my patient and cut upward two inches and a half, starting immediately over the ridge of the pubic arch, exposing the tendon at one sweep. I then cut the tendon transversely over about one inch close to the bone, and cut it centrally for an inch and a half. I then pass my left forefinger between the bladder and pubic arch and follow it with a pair of forceps. I gently rend the tissue till I can feel bladder wall. This can easily be determined by its peculiar feeling, and by the fact that once the forceps grip it they hold, and they do not hold merely cellular tissues. Having fixed one pair, I then fix another close to them. My assistant takes them and gently pulls them apart, as in abdominal section; a notch of the knife follows, and a rush of water declares the road into the bladder for the forefinger to be open. The rest is all finger work, and consists as in abdominal sections of a gentle, but firm extension of the opening into the bladder, till the lithotomy forceps can follow it. All my cases have recovered without complications, and though up to the present I have used a glass drainage tube, I am of the opinion that

this will prove an unnecessary precaution, and that it will be safe to close the bladder by deep sutures."—*Lancet*.

Fecal Fistula following Hernia—Closure by Resection of Intestine.

At the London Hospital Mr. Frederick Treves recently operated on a boy, set. 16 years, who, six months ago, had been operated on for hernia. Probably the intestine was gangrenous, as it had been left in the wound, and a double fecal fistula resulted. The double opening in the intestine was freely exposed, the gut drawn out, and three inches of the ileum were removed. The ends were approximated by Lembert's suture.—*Med. Press and Circular*.

ARMY AND NAVY.

U. S. ARMY FROM JULY 9, 1893, TO JULY 15, 1893.

The order assigning Captain Freeman V. Walker, Assistant Surgeon, to temporary duty at Fort Trumbull, Conn., is so amended as to relieve him from future duty at Fort D. A. Russell, Wyoming, and to assign him to station at Fort Trumbull, Conn., until further orders.

1st Lieut., Charles F. Mason, Assistant Surgeon, July 2, 1893, promoted to be Assistant Surgeon, with the rank of Captain.

Major James P. Kimball, Surgeon, is relieved from duty at Fort Clark, Texas, to take effect at the expiration of his sick leave of absence, and ordered to Fort Marcy, New Mexico, for duty.

Major William H. Gardener, Surgeon, on being relieved by Major Woodruff, is ordered to duty as Attending Surgeon and examiner of Recruits at Steadgrs, Dept. of Dakota, St. Paul, Minn., relieving Capt. Walter Reed, Assistant Surgeon, U. S. Army.

Capt. Reed, upon being relieved by Major Gardner, is ordered to report to the Surgeon General at Washington, D. C., for duty as curator of the Army Medical Museum, and as professor of clinical and sanitary microscopy in the Army Medical School.

Captain William H. Corbusier, Assistant Surgeon is relieved from duty at Fort Wayne, Mich., and ordered to Fort Supply, Indian Territory, for duty, relieving Major Paul R. Brown. Major Brown on being relieved by Captain Corbusier is ordered to Fort Hamilton, N. Y., relieving Major Ezra Woodruff, Surgeon Major Woodruff on being relieved by Major Brown is ordered to Fort Keogh, Montana, for duty, relieving Major William H. Gardner, Surgeon.